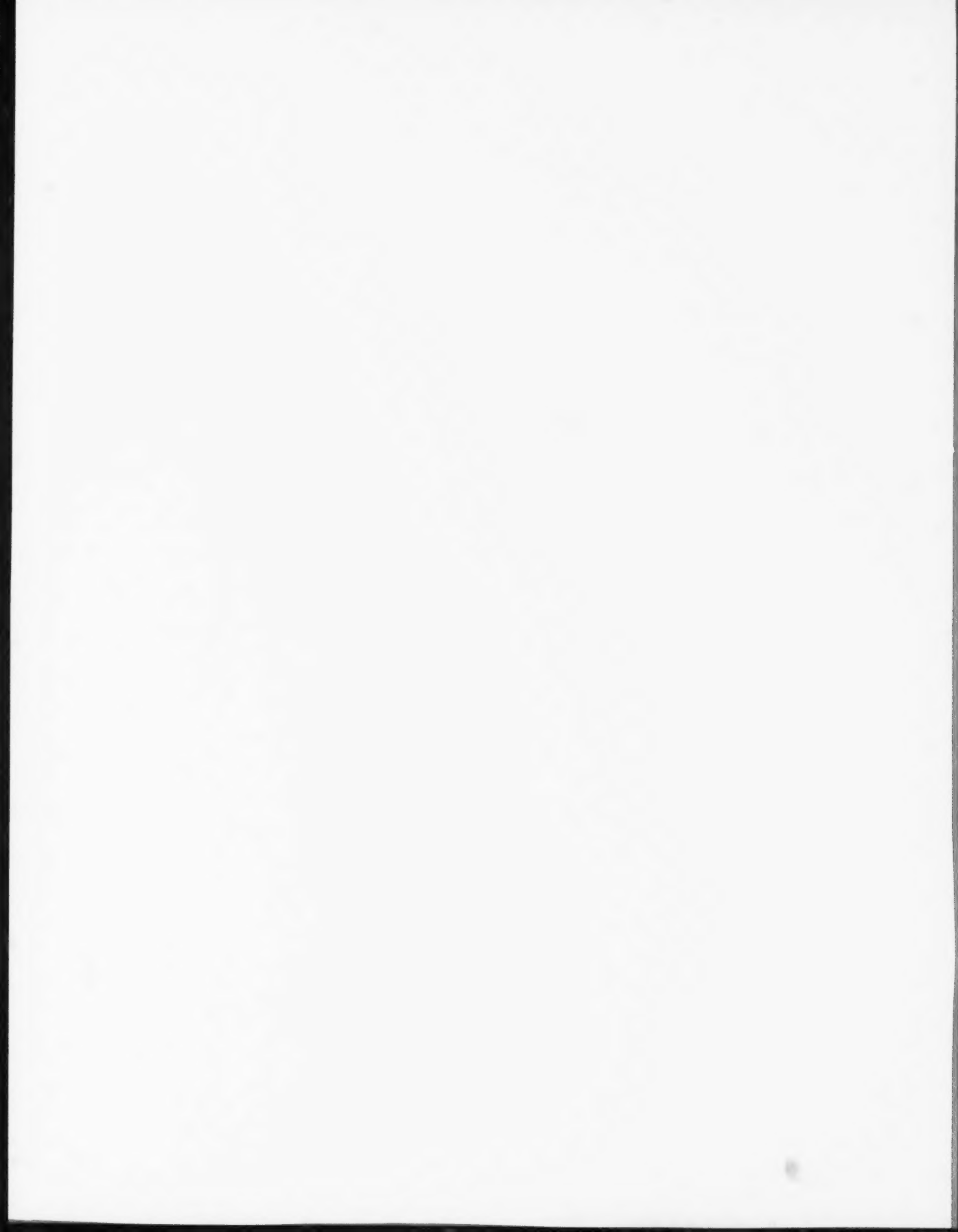


## Table of Contents

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|   |    |
|---|----|
| Message from the Minister .....                                   | 1  |
| Deputy Minister's message .....                                   | 3  |
| Department Overview .....   | 5  |
| Legislative and Other Responsibilities Assigned to Minister ..... | 6  |
| Organizational Chart .....  | 7  |
| Year in Review .....  | 8  |
| Bilan de l'année .....  | 10 |
| Administrative Services Division .....                            | 13 |
| Energy and Minerals Division .....                                | 17 |
| Forests, Fish and Wildlife Division .....                         | 21 |
| Pollution Prevention Division .....                               | 41 |
| Water Management Division .....                                   | 50 |



## Minister's Message

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The Honourable Barbara Hagerman  
Lieutenant Governor  
Province of Prince Edward Island



May It Please Your Honour:

It is my privilege to present the Annual Report of the Department of Environment, Energy and Forestry for the fiscal year ended March 31, 2009.

Respectfully submitted,

A handwritten signature in cursive script that reads "Richard Brown".

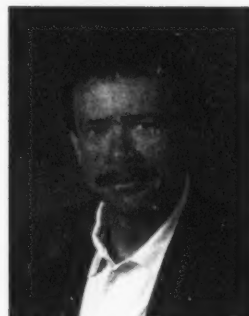
Richard Brown,  
*Minister during the Reporting Period*



## Deputy Minister's Message

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To the Honourable Richard Brown  
*Minister of Environment, Energy and Forestry*



Sir:

I am pleased to submit the Annual Report of the Department of Environment, Energy and Forestry for the fiscal year ended March 31, 2009. This report will focus on the achievements of the department during the period of April 1, 2008 to March 31, 2009.

I would like to recognize and thank the employees of the Department of Environment, Energy and Forestry for their dedication and service throughout the fiscal year.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "John MacQuarrie". The signature is stylized with a large, sweeping initial "J" and "M".

John MacQuarrie  
*Deputy Minister*



## Department Overview

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### *Our Vision*

Our vision is of an enhanced connection between Islanders and their environment. Individuals, communities, businesses and governments value our natural capital. They understand the relationship among our environment, health and economy, and this relationship is a key consideration in all decision making. Prince Edward Island is identified as Canada's "green" province - a model of sustainability.

### *Our Mission*

Our mission is to work in close cooperation with Islanders to realize our vision.

- We help establish standards and work to ensure compliance for the protection of our natural environment.
- We lead by setting a positive example.
- We help Islanders make decisions that support the vision by publicly reporting on the state of our natural capital.

# Legislative and Other Responsibilities Assigned to the Minister of Environment, Energy and Forestry

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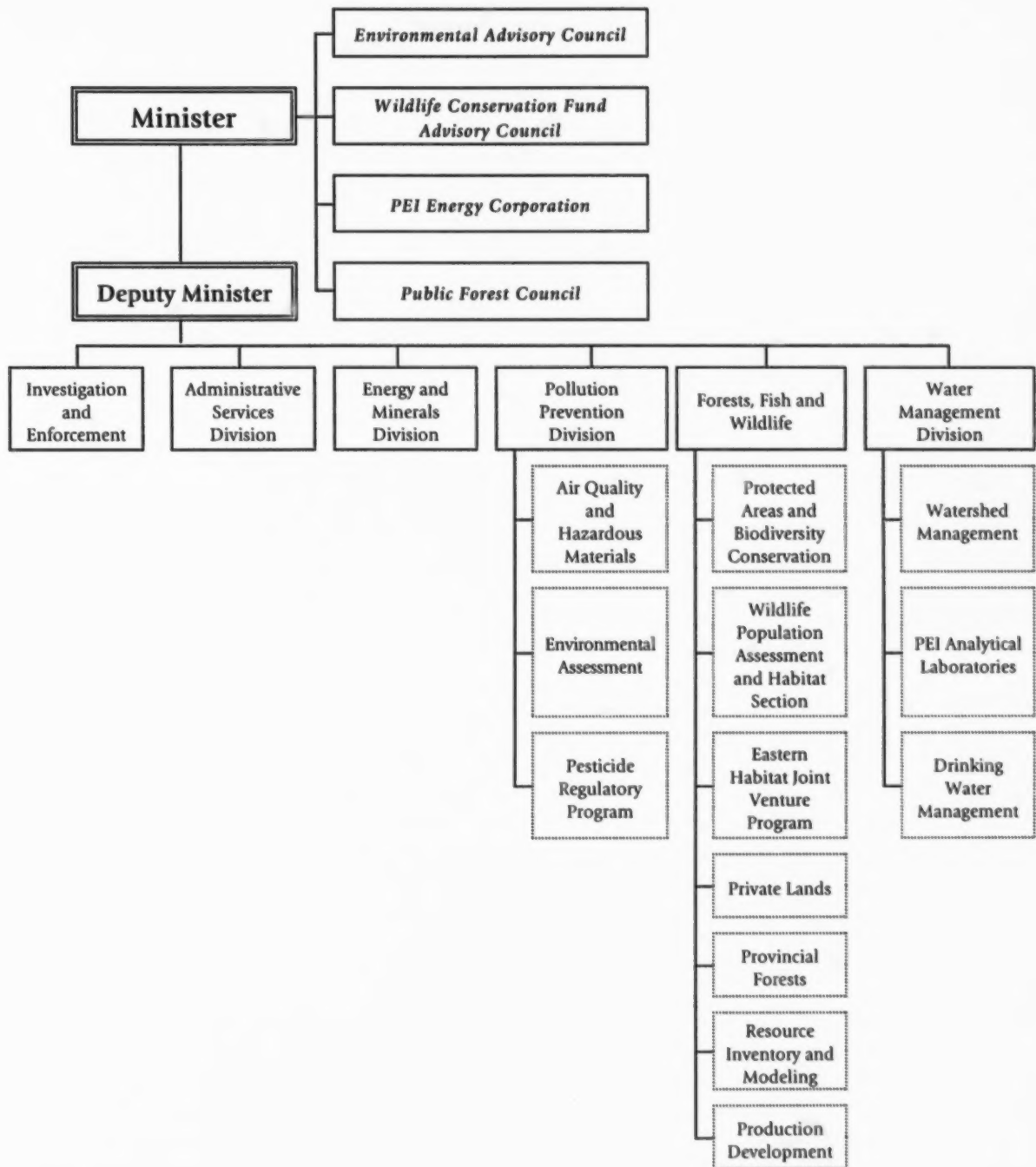
## **Acts/Statutes**

*Agricultural Crop Rotation Act*  
*Automobile Junk Yards Act*  
*Beverage Container Act*  
*Energy Corporation Act*  
*Energy Efficient Appliances Act (when proclaimed)*  
*Environmental Protection Act*  
*Fire Prevention Act (Part VII)*  
*Forest Management Act*  
*Institute of Man and Resources Act*  
*Mineral Resources Act*  
*Natural Areas Protection Act*  
*Natural Gas Distribution Act (when proclaimed)*  
*Oil and Natural Gas Act*  
*Pesticides Control Act*  
*Public Forest Council Act*  
*Unightly Property Act*  
*Wildlife Conservation Act*

## **Board/Agencies/Commissions**

*Energy Corporation*  
*Environmental Advisory Council*  
*Natural Areas Protection Act Technical Advisory Committee*  
*Natural Gas Distribution Board (upon proclamation of the Natural Gas Distribution Act)*  
*Public Forest Council*  
*Species at Risk Advisory Committee*  
*Wildlife Conservation Fund Advisory Committee*

# Organizational Chart



## Year in Review

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Following are highlights of department activities in 2008/09:

- In April, the Department of Environment, Energy and Forestry became the first provincial government department to allow the public to pay for services using the Internet. The new on-line angling license allowed Islanders and visitors to pay for a fishing license over the Internet and then print off a single copy of the license that they could carry with them.
- The Department's Energy and Minerals Division launched a series of province wide hearings in April in order to gather public input for a provincial energy strategy. The strategy - released in October - called for greater efficiency and for development of renewable energy sources including wind and biofuels.
- In April, Prince Edward Island became the first Canadian province to pay farmers and landowners for delivery of ecological goods and services. The new Alternative Land Use Services (ALUS) program offers financial incentives for a range of environment measures from erosion control to retirement of sensitive lands from plowing.
- In May, the department released a study outlining the potential economic and environmental benefits that could be gained through greater energy efficiency in Prince Edward Island's commercial and institutional sectors. The study concluded that energy efficiency could save the province as much as \$151 million by 2017.
- On May 3, government responded to market changes and consumer demand by lifting the so-called "can ban" and allowing the sale of carbonated beverages (i.e - soft drinks and beer) in non-refillable containers. The new Beverage Container Management System was accompanied by the establishment of a province-wide network of depots for the redemption and recovery of beverage containers.
- Following an influx of applications from entrepreneurs and the farm community, the government established an Interdepartmental Biofuels Committee to evaluate proposals for development of energy from the province's farm, forest and fishery resources.
- June 10, Prince Edward Island, along all the Atlantic provinces, signed a memorandum of understanding with Canada's Environment Department in order to aid cooperation between provincial and federal governments on environmental issues.
- The government of Prince Edward Island delivered on its commitment to watershed planning with the June 24 announcement of more than \$500,000 in funding for community-based watershed groups across the island.
- The hiring in June of two new seasonal Conservation Officers allowed the department to step up its enforcement efforts. A particular emphasis was made on enforcing off-road vehicle regulations on beaches, wetlands and the Confederation Trail.

- In July, Prince Edward Island played host to meetings the North American Wetland Conservation Council, a group involving provincial and state governments, national governments and non-governmental organizations in the protection of wetland habitat.
- In mid-July, the Office of Energy Efficiency began helping Islanders prepare for the coming winter heating season by announcing its first round of programs for energy efficiency in Island homes.
- Prince Edward Island's Recreational Fisheries Advisory Committee delivered its report in September 2008, outlining recommendation for the preservation of the province's freshwater fish stocks.
- On October 17, the government of Prince Edward Island announced plans to pursue wind energy developments that would make the province an energy exporter and the continent's leaders in the development of wind energy. Under the 10-Point- Plan for wind development, the province set a goal of development of 500 megawatts of wind energy within a framework that emphasizes economic, environmental and social benefits to Islanders and Island communities.
- The government of Prince Edward Island outlined strategies for dealing with two pressing environmental challenges in November as it released *Prince Edward Island Energy Strategy Securing our Future: Energy, Conservation and Renewables* and *Prince Edward Island and Climate Change: A Strategy for Reducing the Impacts of Global Warming*. The strategies were released together November 20.
- In October, Wayne MacQuarrie, director of the Department's Energy and Minerals division and CEO of the PEI Energy Corporation was given an Individual Leadership Award by the Canadian Wind Energy Association at its annual conference and trade show in Vancouver.
- January 2009 saw the release of a new landowner's and farmer's guide to Prince Edward Island buffer zone regulations. The regulations, which set constraints on land use activities in the area immediately adjacent to watercourses and wetlands, take effect in the 2009 growing year.
- In February, Prince Edward Island joined with other provinces and the federal government in national agreement to set standards for municipal wastewater effluent.
- A new on-line directory of contaminated sites launched in March allows realtors, property assessors and potential buyers to check the status of any property in the province. When a property number is entered into the directory, a report will tell whether the land in question is contaminated and will give details on the contamination where it is present.
- In late March, the Department of Environment, Energy and Forestry began working with local watershed groups in order to hold landowner information meetings outlining the requirements of Prince Edward Island's buffer zone regulations.

## Bilan de l'année

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Voici les points saillants des activités du ministère en 2008-2009 :

- En avril, le ministère de l'Environnement, de l'Énergie et des Forêts est devenu le premier ministère du gouvernement provincial à permettre au public de payer des services par Internet. Le nouveau permis de pêche en ligne permet aux Insulaires et aux visiteurs de payer leur permis de pêche par Internet et puis d'imprimer une copie unique du permis qu'ils peuvent porter sur eux.
- La division de l'Énergie et des minéraux du ministère a lancé une série d'audiences à l'échelle de la province en avril afin de recueillir l'avis du public au sujet d'une stratégie provinciale en matière d'énergie. La stratégie – publiée en octobre – demande que des mesures soient prises pour améliorer l'efficacité et pour développer les sources d'énergie renouvelables, notamment l'énergie éolienne et les biocombustibles.
- En avril, l'Île-du-Prince-Édouard est devenue la première province canadienne à payer les fermiers et les propriétaires fonciers pour la prestation de biens et services écologiques. Le nouveau programme des Services de diversification des modes d'occupation des sols (ALUS) offre des incitations financières pour une étendue de mesures à caractère environnementales allant du contrôle de l'érosion à la cessation du labourage des terres fragiles.
- En mai, le ministère a publié une étude donnant un aperçu des bienfaits économiques et environnementaux potentiels qui pourraient être obtenus grâce à une meilleure efficacité énergétique des secteurs commerciaux et institutionnels de l'Île-du-Prince-Édouard. L'étude a conclu que l'efficacité énergétique pourrait faire épargner jusqu'à 151 millions de dollars à la province d'ici 2017.
- Le 3 mai, le gouvernement a répondu à l'évolution du marché et aux demandes des consommateurs en abolissant l'interdiction des cannettes et en permettant la vente de boissons gazéifiées (par ex., les boissons gazeuses et la bière) dans des contenants non réutilisables. Le nouveau Système de gestion des contenants de boissons fut accompagné par l'établissement d'un réseau provincial de centres de recyclage pour la consignation et la récupération des contenants de boisson.
- Pour faire suite à un afflux de demandes provenant d'entrepreneurs et de fermiers, le gouvernement a établi un comité interministériel sur les biocarburants qui évalue les propositions en vue du développement de l'énergie à partir des ressources en provenance des fermes, des forêts et des pêches de la province.

- Le 10 juin, l'Île-du-Prince-Édouard, de pair avec toutes les provinces de l'Atlantique, a signé un protocole d'entente avec le ministère de l'Environnement fédéral afin de faciliter la coopération entre les administrations provinciales et l'administration fédérale au sujet des enjeux environnementaux.
- Le 24 juin, le gouvernement de l'Île-du-Prince-Édouard a démontré qu'il était à la hauteur de son engagement à la planification des bassins hydrologiques avec l'annonce qu'il avait versé plus de 500 000 \$ en financement pour les groupes communautaires de bassins hydrologiques dans l'ensemble de l'Île.
- L'embauche de deux nouveaux agents de conservation en juin a permis au ministère de mieux assurer l'observation des règlements. On a mis une emphase particulière sur le respect des règlements sur les véhicules hors route sur les plages, les terres humides et le Sentier de la Confédération.
- En juillet, l'Île-du-Prince-Édouard a accueilli le Conseil nord-américain de conservation des terres humides lors de ses réunions. Ce conseil regroupe les administrations des provinces et des États, les administrations fédérales et les organismes non gouvernementaux qui s'engagent à la protection des habitats en terres humides.
- À la mi-juillet, l'Office de l'efficacité énergétique a commencé à aider les Insulaires à se préparer pour la saison du chauffage d'hiver en annonçant sa première ronde de programmes pour veiller à l'efficacité énergétique dans les domiciles de l'Île.
- Le comité consultatif de la pêche récréative de l'Île-du-Prince-Édouard a soumis son rapport en septembre 2008, donnant un aperçu des recommandations pour la préservation de la population des poissons d'eau douce de la province.
- Le 17 octobre, le gouvernement de l'Île-du-Prince-Édouard a annoncé ses plans de poursuivre les développements en énergie éolienne qui feraient de la province une exportatrice d'énergie et une meneuse du continent en matière de développement de l'énergie éolienne. Dans le cadre du plan en 10 points pour le développement éolien, la province a établi l'objectif de développer 500 mégawatts d'énergie éolienne à l'intérieur d'une démarche qui met l'accent sur les bienfaits de nature économique, environnementale et sociale pour les Insulaires et les collectivités de l'Île.
- Le gouvernement de l'Île-du-Prince-Édouard a établi des stratégies pour traiter deux difficultés environnementales pressantes en novembre dans sa publication de l'ouvrage intitulé *Prince Edward Island Energy Strategy Securing our Future: Energy, Conservation and Renewables and Prince Edward Island and Climate Change: A Strategy for Reducing the Impacts of Global Warming*. Les stratégies ont été publiées ensemble le 20 novembre.

- En octobre, Wayne MacQuarrie, directeur de la division de l'Énergie et des minéraux du ministère et directeur général de la PEI Energy Corporation, a reçu le Prix d'initiative individuel de l'Association canadienne de l'énergie éolienne lors de sa conférence et son exposition commerciale annuelles à Vancouver.
- En janvier 2009, on a publié un nouveau guide à l'intention des fermiers et des propriétaires fonciers au sujet des règlements des zones tampons de l'Île-du-Prince-Édouard. Les règlements, qui établissent des contraintes sur les activités d'utilisation des terres dans la zone immédiatement adjacente aux cours d'eau ou aux terres humides, seront en vigueur dans l'année de récolte 2009.
- En février, l'Île-du-Prince-Édouard s'est jointe aux autres provinces et au gouvernement fédéral dans une entente nationale pour établir les normes pour l'effluent des eaux usées municipales.
- Un nouveau répertoire en ligne des sites contaminés lancé en mars permet aux courtiers, aux évaluateurs de biens et aux acheteurs potentiels de vérifier le statut de toute propriété dans la province. En entrant le numéro de la propriété dans le répertoire, on pourra recevoir un rapport qui énonce si la terre en question est contaminée, et quels sont les détails de la contamination si elle est présente.
- Vers la fin mars, le ministère de l'Environnement, de l'Énergie et des Forêts a commencé à travailler auprès des groupes de bassins hydrologiques afin de tenir des réunions d'information pour les propriétaires fonciers afin de donner les grandes lignes des exigences des règlements sur les zones tampons de l'Île-du-Prince-Édouard.

## Administrative Services Division

### Mandate

The Administrative Services Division provides financial, human resource and administrative services to department personnel. The division has the overall responsibility for preparing and monitoring the department budget and providing financial analysis and advice to department management. Human resource management support for the department is provided by the division in areas such as recruitment and selection, position management, orientation, training, and planning. The division processes financial and payroll transactions; and is responsible for various administrative services such as reception, vehicle management, telecommunications system administration, accommodation requirements, records management activities, information technology services, risk management, freedom of information and protection of privacy coordination, and occupational health and safety program planning.

### Department Staff Summary

There were organizational changes to the Forests, Fish and Wildlife Division that were identified to improve client service, to better position the division to deliver the new Forest Policy and to re-engage at the regional and national levels on priority issues.

- A Senior Manager of Special Initiatives position was created to work on inter-jurisdictional issues, represent PEI's position at the regional and national levels, lead forest fire suppression initiatives, coordinate the division's legislative and training efforts, and lead implementation and evaluation of PEI's Forest Policy.
- Two Private Land Woodlot Program Coordinators were added to promote sustainable forest management and PEI's forest policy to private landowners and the general public. They provide direction and support to the other Private Land Technicians.
- A Wildlife Program Officer was created to provide essential support for wildlife technical work, oversee implementation of legislation, coordinate hunter education, and improve service to clients.

In the Water Management Division a new Watershed Monitoring Specialist position was created to support expansion of the watershed management program and an enhanced ambient water monitoring program. Funds to create this position were identified from within the existing budget of the department.

The department reallocated internal resources to cover the costs associated with these new positions. Overall, there was an increase of one permanent position.

| Permanent Position Establishment<br>(as of March 31/09) |           |           |
|---|-----------|-----------|
|   | Full-time | Part-time |
| Pollution Prevention                                    | 18        | 1         |
| Water Management  | 30        | 5         |
| Administrative Services                                 | 20        | 5         |
| Energy  | 08        | 0         |
| Forests, Fish and Wildlife                              | 39        | 32        |
| Total   | 115       | 43        |

In addition to the above established positions the Department employed 64 casual employees and 62 students during the fiscal year 2008/09.

## Department Financial Summary

| 2008/09 Actual Expenditure and Revenue |                     |                     |                            |
|--|---------------------|---------------------|----------------------------|
| Division                               | Original Budget     | Revised Budget      | Actual Expenditure/Revenue |
| <b>EXPENDITURE BUDGET:</b>             |                     |                     |                            |
| Department Management                  | \$1,289,100         | \$1,256,700         | \$1,159,432                |
| Pollution Prevention                   | \$5,693,800         | \$5,752,900         | \$5,652,528                |
| Water Management                       | \$3,684,800         | \$3,863,300         | \$3,176,058                |
| Administration                         | \$568,900           | \$564,600           | \$553,101                  |
| Forests, Fish and Wildlife             | \$6,275,200         | \$6,793,500         | \$6,699,328                |
| Energy & Minerals                      | \$5,672,200         | \$5,827,000         | \$5,722,225                |
| <b>TOTAL</b>                           | <b>\$23,184,000</b> | <b>\$24,058,000</b> | <b>\$22,962,672</b>        |
| <b>REVENUE BUDGET:</b>                 |                     |                     |                            |
| Department Management                  | 0                   | 0                   | \$411                      |
| Pollution Prevention                   | \$336,600           | \$336,600           | \$231,033                  |
| Water Management                       | \$445,000           | \$554,200           | \$725,253                  |
| Administration                         | \$500               | \$500               | \$473                      |
| Forests, Fish and Wildlife             | \$928,600           | \$1,144,000         | \$915,373                  |
| Energy & Minerals                      | \$105,000           | \$105,000           | \$87,432                   |
| <b>TOTAL</b>                           | <b>\$1,815,700</b>  | <b>\$2,140,300</b>  | <b>\$1,959,975</b>         |
| <b>TOTAL NET</b>                       | <b>\$21,368,300</b> | <b>\$21,917,700</b> | <b>\$21,002,697</b>        |

*Based upon financial reports dated September 3, 2009.*

There was one Special Warrant in the amount of \$324,600 for a number of projects which were 100 per cent funded under the Canada/PEI National Water Program. Negotiated salary increases were \$549,400.

## ***Freedom of Information and Protection of Privacy Act***

The department received 10 new Access to Information requests under the *Freedom of Information and Protection of Privacy Act* between April 1, 2008 and March 31, 2009. In addition, there were three previously received requests that were still open as of April 1, 2008. Thus, there were a total of 13 requests that were active during the 2008-2009 fiscal year. Of these 13 active requests, 12 were closed prior to March 31, 2009 and one remained open (this request is under appeal).

| Access to Information Request Summary from April 1, 2008 to March 31, 2009. |    |
|---|----|
| Open requests as of April 1, 2008 (including requests under appeal)         | 3  |
| New requests received between April 1, 2008 and March 31, 2009              | 10 |
| Total active requests between April 1, 2008 and March 31, 2009              | 13 |
|   |    |
| Active requests that were closed between April 1, 2008 and March 31, 2009   | 12 |
| Open requests as of March 31, 2009 (including requests under appeal)        | 1  |

### **Investigation and Enforcement**

This year saw seven full-time conservation officers, two seasonal conservation officers and three part-time pesticide inspectors carrying caseloads through to the court system, while relaying the message that the department was taking violations seriously and working to improve compliance, through education and enforcement.

The Investigation and Enforcement Section is responsible for protecting the following acts and regulations pertaining to the environment, fish and wildlife, and pesticides:

- *Automobile Junk Yards Act*
- *Environmental Protection Act*
- *Highway Traffic Act*
- *Natural Areas Protection Act*
- *Off-Highway Vehicle Act*
- *Pesticides Control Act*
- *Planning Act*
- *Recreational Development Act*
- *Trail Act*
- *Unsettled Property Act*
- *Wildlife Conservation Act*

As well, through formal and informal agreements with Environment Canada, Fisheries and Oceans and the Royal Canadian Mounted Police, the province enforces the following federal acts and regulations related to pollution prevention and wildlife protection:

- *Trespass to Property Act*, related to hunting and fishing.
- *Fisheries Act (CANADA)*, related to sport fishing and habitat destruction.
- *Migratory Birds Convention Act (CANADA)*, related to the protection of migratory birds
- *Wild Animal /Plant Protection and Regulation of International and Interprovincial Trade Act*, related to the illegal trade and harvesting of wildlife.
- *Small Vessel Regulations*, related to boat safety.
- *Criminal Code (CANADA)*, related to firearms offences and other criminal offences that an officer may come across in the field.

The following table illustrates the violations and warnings recorded between the period of April 1, 2008 to March 31, 2009. There were a total of 695 violations across the province.

| <b>Statute</b>                       | <b>Charges</b> | <b>Warnings</b> |
|--------------------------------------|----------------|-----------------|
| <i>Agriculture Crop Rotation Act</i> | 1              | 1               |
| <i>Automobile Junk Yards Act</i>     | 4              | 2               |
| <i>Canada Shipping Act</i>           | 0              | 1               |
| <i>Environmental Protection Act</i>  | 151            | 56              |
| <i>Fire Prevention Act</i>           | 0              | 2               |
| <i>Fisheries Act</i>                 | 0              | 0               |
| <i>Forest Management Act</i>         | 0              | 1               |
| <i>Highway Traffic Act</i>           | 5              | 1               |
| <i>Liquor Control Act</i>            | 1              | 0               |
| <i>Migratory Bird Act</i>            | 4              | 0               |
| <i>Off-Highway Traffic Act</i>       | 128            | 142             |
| <i>Pesticides Control Act</i>        | 21             | 59              |
| <i>Small Vessel Regulations</i>      | 0              | 1               |
| <i>Trails Act</i>                    | 6              | 0               |
| <i>Trespass to Property Act</i>      | 0              | 0               |
| <i>Unsightly Properties Act</i>      | 2              | 0               |
| <i>Wildlife Conservation Act</i>     | 30             | 75              |
| <b>Total</b>                         | <b>354</b>     | <b>341</b>      |

# Energy and Minerals Division

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## Mandate

Development, implementation and administration of energy policies and programs are within the mandate of the Department's Energy and Minerals Division. This includes the activities of the Office of Energy Efficiency. The Division is also responsible for the promotion and administration of hydrocarbon and mineral resources and lending administrative and technical support to the activities of the Prince Edward Island Energy Corporation.

## Highlights

### New Energy Strategy

After extensive public consultation, which included input solicited from a variety of stakeholders and comments received during community information sessions, the new Prince Edward Island Energy strategy was released on November 20, 2008. *Securing our Future: Energy, Conservation and Renewables*, has the stated objectives of improving security of supply, providing environmentally sustainable solutions and increasing economic potential as it applies to the province's access and use of energy resources.

Prince Edward Island is very reliant on imported sources of energy. Approximately 76 per cent of our energy is derived from petroleum products which leaves the province in a highly vulnerable position when world oil prices rise, as was experienced over the past year. In a province with no known commercial resources of oil and natural gas, the obvious choice is a switch to indigenous, renewable sources of energy.

Prince Edward Island has become a national leader in incorporating renewable energy, in the form of wind power, into the electricity generation mix but considerable work remains to be done to develop renewable fuels for transportation; residential, commercial and institutional heating; and, industrial applications. The new energy strategy describes specific government action items to enable these sectors of the economy to become less reliant on imported oil products.

Opportunities to be pursued include further investigation into establishing a liquid biofuels industry in Prince Edward Island and demonstrating biomass technologies in public buildings.

The pursuit of indigenous sources of renewable energy also meets environmental sustainability and economic development ambitions. Renewable energy typically releases less pollutants into the air, water and soil. Utilizing fuel sources that are developed within the provinces requires capital expenditures on facilities which provides jobs for local contractors and tradespeople. In the case of the development of a biofuels industry, there is economic potential for the agriculture and forestry industries to produce the feedstocks.

Improving security of supply and environmental sustainability also requires Islanders to be more aware of how they use their energy supplies. Conservation and efficiency are always less costly than procuring other sources of energy and these measures will play an important role in meeting our energy goals. It is estimated that by 2018, 20 per cent of the province's energy needs will be met by just using less energy through efficiency and conservation measures. Through the Office of Energy

Efficiency, government will continue to develop and deliver programs that increase energy efficiency by offering direct incentives, low-interest loans and rebates. Regulatory actions are also required to provide minimum energy efficiency standards for appliances and buildings.

#### **10 Point Plan**

Since the development of the PEI Energy Corporation's 5.26 MW facility at North Cape in 2001, the province has added nearly 160 MW more wind generation, such that Islanders are acquiring 18 per cent of their electricity from this renewable energy source. More wind developments are being proposed to meet both domestic and export markets to meet the demand for clean energy.

In October 2008, Premier Robert Ghiz released *The 10 Point Plan* which provides the criteria for future wind projects to ensure that this development provides maximum benefits to the province. Also included in this policy document are requirements for sound land use, the promotion of fair and equitable land lease payments on lands in which turbines are situated and the need for proponents to garner public support for their projects.

The PEI Energy Corporation was the lead agency for *The 10 Point Plan* but staff of the Energy and Minerals Section of the Department provided assistance for this initiative.

#### **Office of Energy Efficiency**

Reducing consumption through efficiency and conservation is the most cost effective approach to saving energy dollars and preserving the environment. On January 22, 2008 the Prince Edward Island Office of Energy Efficiency (OEE) officially opened its doors to provide Islanders with a one-stop venue for information about provincial and federal energy efficiency programs, services

and other pertinent information. Located at 161 St. Peters Road in Charlottetown, the opening of the OEE was especially timely as high world oil prices resulted in greater financial burden for residents and businesses coping with correspondingly higher petroleum and electricity bills.

During the 2008/09 reporting period the Office of Energy Efficiency subsidized the completion of more than two thousand residential energy audits and provided \$1.7 million in loans to help residents make significant improvements in the energy efficiency of their homes. It is estimated that, on average, Islanders who made energy efficiency improvements through the OEE's programs are saving approximately \$1,200 annually in energy costs.

Currently, the Office of Energy Efficiency offers the following programs:

- PEI EcoEnergy Audit Program - pays for half the cost of a pre and post energy audit, to a maximum of \$250 per household;
- PEI EcoEnergy Audit Program for Low Income Households - pays for all the costs of a pre and post energy audit;
- PEI Energy Efficiency Grant Program - provides a direct subsidy of 15 per cent, up to \$1500 per household, to Island residents who implement the measures identified in their EcoEnergy Audit Program Report;
- PEI Energy Efficiency (Window and Doors) Grant Program - provides clients with a grant of 430 per eligible (energy efficient) window or door that is installed. (Amounts received under this program are deducted from the maximum available incentive through the PEI Energy Efficiency Grant Program.)

- **PEI Energy Efficiency Loan Program** - provides financing to complete energy efficiency improvements to Island homes. Regular income clients pay a 6 per cent interest rate while loans issued to low-income clients are interest-free. Low-income clients may also be eligible for up to 50 per cent loan forgiveness.
- **Home Energy Low-Income Program (HELP)** - provides a free weather proofing service to all low-income clients. The service includes air sealing the home, installation of a programmable thermostat and low-flow shower head, as well as providing a voucher for a free furnace cleaning.

The Office of Energy Efficiency will continue to deliver programs to meet the needs of Islanders. In addition to its suite of residential programs, the OEE is developing programs and initiatives for other sectors of the provincial economy.

#### **Mineral Exploration**

In August 2008, Venilla Development Corporation was issued mineral rights on 43,000 hectares (106,600 acres) east of St. Peter's Bay in areas that have revealed the presence of subsurface salt domes. Evaporite minerals, such as potassium, often occur within these structures.

The issuance of licenses to Venilla Development Corporation marked the first request for mineral exploration rights in Prince Edward Island in several decades. Under the *Mineral Resources Act*, licenses are initially issued for a one-year period and may be renewed on an annual basis for up to four consecutive years, thereafter.

#### **Oil and Natural Gas Exploration**

Approximately 320,000 hectares (790,000 acres) are under exploration in Prince Edward Island for oil and gas. Corridor Resources maintains two permits in central

Prince Edward Island that have a combined area of 107,000 hectares (254,000 acres). BP Canada Energy Company is the holder of an offshore permit that is located off the eastern tip of the province. The remaining six permits, with a combined holdings of 183,000 hectares (450,000 acres) in the eastern end of the province, have been issued to PetroWorth Resources Inc.

During the reporting period, no exploratory wells were drilled but Corridor Resources continued to stimulate and test flow the Green Gables #3 well near Cavendish. Green Gables #3 was drilled in the summer of 2007 and appeared to transect a potential pay zone of natural gas. To date, it has not been determined if the well will flow commercial quantities of gas.

#### **PEI EnerPool Program**

The PEI EnerPool Program continues to demonstrate the value of ride sharing for reducing energy consumption and traffic congestion. This also produces favourable results for the environment by eliminating harmful air emissions. A Souris route provides weekday transportation to and from Charlottetown.

#### **Prince Edward Island Energy Corporation Activities**

The Prince Edward Island Energy Corporation relies on Energy and Minerals Division staff to assist with its operations and initiatives. This included providing technical and administrative assistance to:

#### **North Cape Wind Farm**

The North Cape Wind Farm, a 10.56 MW facility, continues to operate at a high level of availability and annually produces in excess of 30 million kilowatt hours of renewable energy for Island customers.

### **East Point Wind Plant**

Commissioned in 2007, the East Point Wind Plant consists of 10 - Vestas V-90 turbines with a generating capacity of three MW each. Activities at the site were dominated by the necessity to replace gearboxes in all of the units which resulted in a considerable decrease in output. Fortunately, the operations and maintenance contract with the supplier enabled the Corporation to recoup the value of this lost production. As the gearbox problems with this model of turbine become resolved, it is expected that the facility will meet its forecasted annual production of 90 million kilowatt hours of energy or approximately nine per cent of the province's electricity requirements.

### **PEI Wind-Hydrogen Village Project**

The PEI Wind-Hydrogen Project is a research, development and demonstration initiative located in North Cape with an objective to establish a unique, grid-independent renewable energy supply system. The system is designed to provide electricity from wind turbines when this resource is available and to also produce hydrogen fuel. When there is low or no wind, the stored hydrogen fuel is consumed in a hydrogen engine generator set to produce electricity to the buildings within the project area. The near-term market for this technology is deployment in Canada's northern and remote communities that must rely on diesel fuel for electrical generation but, in the future, there may be broader applications for storing and utilizing hydrogen fuel from renewable power.

### **Hydrogen Shuttle Bus and Fueling Demonstration Project**

In late 2007, the Hydrogen Shuttle Bus and Fueling Demonstration Project was launched to demonstrate the viability of hydrogen as a safe and clean transportation fuel. A partner and supplier of vehicles for the project is Ford Motor Company of Canada who are also interested in obtaining operational data to progress the development of this technology. During this reporting period two Ford hydrogen shuttle buses operated within the Charlottetown Transit system and logged a total of 17,790 kilometers.

## Forests, Fish and Wildlife Division

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### **Mandate**

The Forests, Fish and Wildlife Division promotes sustainable forest management and wildlife and habitat conservation on public and private lands. The division manages approximately 30,635 hectares of public land, including 18,900 hectares in Provincial Forests, with an additional 13,040 hectares in Wildlife Management Areas and Natural Areas. The lands include 80 impoundments which not only provide important habitats, and serve as sites for angling, hunting, trapping, canoeing, birdwatching and other outdoor recreation.

The division provides assistance and advice to private landowners, and collects and maintains forest inventory information, wildlife population and habitat data, and other land use information. Work includes producing seedlings for public and private land planting and tree improvement work, and licensing more than 7,621 trout anglers, 239 salmon anglers 2,574 hunters, 82 trappers and 48 guides and 7 outfitters on Prince Edward Island in 2008. The division provides forest fire suppression on public and private lands, and delivers information programs to engage the public in forest, fish and wildlife issues.

### **Highlights**

It is especially notable that the partners of the PEI Eastern Habitat Joint Venture hosted the North American Wetland Conservation Council at the Rodd's Brudenell Resort in July 2008. The meeting was coordinated by

the Canadian Wildlife Service of Environment Canada and the Canadian Wetland Conservation Council and North American Wetland Conservation Plan Update Committee participated in the three day meeting.

2008-09 saw the release of Prince Edward Island's first Ecosystem-based Forest Management Manual. The standards contained in the manual will be employed on public lands managed by the Forests, Fish and Wildlife Division and for private land owners who manage their woodlands with public assistance. Beginning in 2008, all private land services and funding were folded into a revised Forest Enhancement Program (FEP). Woodlot owners seeking to manage their lands with public funds and services are now required to have a forest management plan prepared first before they can access additional public services.

Hunting and Angling Licenses were sold on line for the first time and staff from the PEI Eastern Habitat Joint Venture hosted the North American Wetland Conservation Council at the Rodd's Brudenell Resort in July 2008.

As part of the Atlantic Innovation Fund, the J. Frank Gaudet Tree Nursery assisted with the Native Rose Development Research Initiative at the University of Prince Edward Island. Under this five-year program, The nursery produced 2,200 plants from eight selected naturalized sites for project outplanting and established rose clone beds of five selected sites for reproduction.

The Market Development Officer and Private Land program staff developed a two-day Hardwood Training Workshop for Forests, Fish and Wildlife Division staff. This workshop was designed to encourage appropriate treatments to develop higher value hardwood saw logs.

PEI assumed responsibility for the 2009 Canadian Council of Resource Ministers annual meetings. Work began to develop agendas and programs for the Deputies' meetings in June 2009 and the Ministers' meetings in September 2009.

#### **Forests, Fish and Wildlife Information**

The Forest, Fish and Wildlife Division Information program coordinates general awareness and youth education programs related to Island forests, and provides communications support and planning services to the director, managers, and staff from the Division's various programs.

Fifty-two radio segments were completed for *Agriculture Today*, a weekly radio program that runs on several Island stations. Another 12 issues of *ForestNet*, a monthly newspaper column which features topics of interest to the Island's forest community and focuses on increasing the profile of web-based resources related to Island forests. The Information Officer also worked to maintain and upgrade the division's web site. Considerable time was spent updating and improving the look and feel of the Fish and Wildlife program web site.

The Department of Education asked the Forests, Fish and Wildlife Division Information Officer to participate in the UN Decade for Education for Sustainable Development (ESD) initiative. Island groups, agencies and organizations with an interest in and commitment to, education and sustainable development were invited to

a special meeting to see if there was interest and support for the creation of a PEI Education for Sustainable Development Steering Group. Based on the level of interest, the Information Officer and a representative from the Department of Education made a presentation to the Deputy Ministers committee to inform them of this development. Deputies supported the creation of an intergovernmental ESD working group to ensure that provincial government programs, policies and services support sustainable development and education.

The Information Officer is also responsible for the development of the annual Provincial Forest Envirothon, a voluntary science education program for senior high school students that emphasizes basic science skills in forestry, soils, aquatics and wildlife. It is a cooperative effort with the Provincial Forest program, and staff from other programs, departments and agencies across PEI. Ten teams from Charlottetown Rural, Bluefield, West Isle, Morell, Colonel Grey, Kensington, and Three Oaks High Schools competed in the 2008 Provincial Forest Envirothon. A team from Three Oaks won the overall competition and was been invited to the 2008 Canon Envirothon competition in Flagstaff, Arizona..

The department worked with Canadian Woodlands Forum, and other forest sector partners from across the region to develop and host the 2008 Atlantic Teachers Tour program. Seven Island teachers visited forests in central Nova Scotia to learning about the science used to manage Maritime forests, exploring the economic and social aspects of large and small forest-based industries, and examining the range of forest sector employment opportunities for their students.

The Forest Information Officer continued to provide logistical and communications support to the Public Forest Council and PEI Model Forest Network Partnership program. Planning also began for the Canadian Council of Resource Ministers annual meetings on Prince Edward Island in 2009.

### **Market Development**

The Department of Forests, Fish and Wildlife's Market Development Officer is tasked with identifying and developing strategies to enhance the economic values received from the Island's forests through value-added processing or new products. The Market Development Officer works closely with industry and governments to propose strategies that will benefit the provincial economy. There is a focus on the development of new markets, process or products that will enhance the value-added forest products sector.

During 2008-09 The Market Development Officer worked on projects in the value-added wood products sector and the non timber forest products sector. With the co-operation from several organizations including; Forests Fish and Wildlife staff, PEI Model Forest and Wood Products PEI an Open House was held at several wood product manufacturing facilities across Prince Edward Island. The general public were encouraged to visit and see how some of the fine wood products are manufactured.

In mid summer a delegation of Japanese business people, representing the building products sector, visited the province. They toured several manufacturing facilities and building sites. Prince Edward Island manufactured wood products continue to be sold to Japanese buyers.

In autumn a two-day Hardwood Training Workshop was developed and held for staff of the Department of Forests, Fish and Wildlife. This educational workshop was presented to encourage dialogue and the eventual application of more appropriate treatments of hardwood stands to develop higher value saw logs. The value-added wood products sector is largely dependant on hardwood species and purchases a considerable amount of the required raw product from off-Island sources.

The Market Development Offer was involved in a large non timber forest products project. "From Our Atlantic Woods" is an Atlantic Canada wide directory of non-timber forest products businesses. The directory is meant to be used as a marketing tool for this relatively unknown sector. It will also serve to show entrepreneurs the potential of other products that can be found and processed from our forests.

### **Interprovincial Initiatives**

Staff participated in the Canadian Council of Forest Minister's Coordination Group, the Wildland Fire Management Working Group, the Climate Change Task Force's work on tree adaptation, and the National Forest Sink Committee discussions on developing a carbon framework. Staff also participated in the Canadian Council of Resource Ministers Biodiversity Steering Group's work leading up to the Convention on Biological Diversity (CBD) meetings including Canada's National Report to CBD, Access and Benefit Sharing for Genetic Resources, and the Ecosystem Status and Trends Reports at the Atlantic Maritime Ecozone and national levels. As well, the BSG initiated projects on the Gap Analysis on Biodiversity and Adaptation to Climate Change Committee,

the engagement strategy for the 2010 International Year of Biodiversity, and valuing biodiversity and nature. In July, the Department renewed its provincial membership in the Maritime Lumber Bureau. Staff were assigned to represent the province on the Softwood Lumber Agreement between the Government of Canada and the Government of United States.

### **Provincial Forests Section**

#### **Fire Suppression and Prevention**

This has been a relatively wet and cold year. As a result, just three forest fires were reported on Prince Edward Island. In total, these fires burned approximately 8.7 hectares.

On the prevention side, the Fire Weather Index (FWI) was calculated by the Department of Environment, Energy and Forestry from the meteorological data collected at three sites. The wildfire danger rating was provided daily to division offices, other departments and local media through

Island Information Services, and was made available during the fire season via telephone or the Internet at [www.gov.pe.ca/go/fwi](http://www.gov.pe.ca/go/fwi). Besides a statistical comparison of the burning permit data, staff compare the burning permits and the telephone calls required to advise fire departments of the starting of a controlled burn to identify control burn calls without permits.

Operating agreements were once again signed with the Souris, Georgetown, Wellington, West Point, and East River Fire Departments. Staff participated in the Western Mutual Aid group. The staffing processes were completed for the vacant Eastern Forestry District Site Crew Boss position and one casual Silviculture Worker recall position. The Provincial Forest Manager position was split into two manager positions, one being the Public Lands Manager and the other being the Senior Manager, Special Projects.

The responsibilities for the leadership in forest fire suppression programs were transferred into the latter position.

#### **Summary of Forest Fire Statistics for the 2008 Fire Season**

| FIRES |          |       | HECTARES |          |       |
|-------|----------|-------|----------|----------|-------|
| Full  | Modified | Total | Full     | Modified | Total |
| 8     | 0        | 3     | 8.7      | 0        | 8.7   |

| COSTS                  |                      |                        | VALUES LOST |           |             |       |
|------------------------|----------------------|------------------------|-------------|-----------|-------------|-------|
| PreSuppression         | Suppression          | Total                  | Forest Res. | Interface | Improvement | Total |
| \$ 200,000<br>Estimate | \$ 4,000<br>Estimate | \$ 204,200<br>Estimate | \$ NA       | 0         | 0           | \$ NA |

Forest fire staff and equipment participated in two community events, namely: a Muskeg Bombardier display at the P.E.I. Firefighter's Annual meeting in Wellington and at a display with the Metro Fire Prevention Association.

Forestry prescribed burns on the Island were almost non-existent. Prescribed burning of forest residues for agricultural conversion for row crops and blueberry cultivation as well as infrastructure development is still at a significant level. A total of 1,061 burning permits were issued in 2008 as part of the forest fire prevention program.

Basic forest fire suppression training was provided to volunteer firefighters at several locations using a CD-ROM version of the basic forest fire suppression course and to Maritime Electric Company Ltd. contractors developing the power line transmission corridor between St. Eleanor's and Howlan.

Three staff members took Incident Command System (ICS)300 and one staff member took the S300 at the NEFFC Spring Academy in Amherst, N.S. and three staff took ICS400 and ICS400 Instructor's Training led through Parks Canada in Charlottetown. Basic forest fire suppression training was provided to volunteer firefighters at several locations using a CD-ROM version of our Basic Forest Fire Suppression Course. Basic forest fire suppression training was also delivered to contractors involved with a major power transmission line corridor. In September, the Department participated in the Atlantic Forest Fire Coordinating Committee meeting in Rocky Harbour, Newfoundland.

New legislation on working alone was enacted and the Forests, Fish & Wildlife Division led the efforts to research and develop the necessary safe work practice and procedures.

During the September meetings of the Atlantic Fire Management Coordinating Committee, George Coade became the Atlantic Province's representative for the Forest Fire Equipment Working Group. Work commenced on the review of the forest fire tanker and support vehicle fleet. Members of the specifications team have been identified.

The older Muskeg Bombardier tanker is being upgraded to achieve many of the features of the new Bombardier tanker.

Staff provided input into the business planning and forest fire mutual aid sharing initiatives of the Canadian Interagency Forest Fire Centre. In addition, staff continued participation in the Canadian Wildland Fire Strategy initiative and the Canadian Council of Forest Minister's Wildland Fire Management Working Group. The Department of Environment, Energy and Forestry received a recognition award from the Nova Scotia Department of Natural Resources for its support of mutual aid development during Nova Scotia's 60<sup>th</sup> Anniversary Celebration of the Shubenacadie Fire Centre.

## ***Private Lands Section***

Some 88 per cent of Prince Edward Island's forest land is owned and controlled by thousands of private woodlot owners. The department offers a number of programs and services designed to help private land owners manage their forest lands.

### **Forest Enhancement Program**

Initiated in 2002, the Forest Enhancement Program (FEP) continues to provide forest management advice to land owners and cost-share forest management treatments which enhance wildlife, recreation, bio-diversity, and timber values.

In 2008, 105 forest management plans were prepared by private sector consultants. Once these plans were approved by the department, land owners were able to access grant monies for silvicultural treatments such as pre-commercial thinning, riparian zone enhancement and crop tree selection. FEP grants totaled \$98,000 for 2008/09,

### **Forest Renewal Program**

The Forest Renewal Program continues to attract land owners interested in receiving technical advice and financial assistance to plant their lands with commercial softwood tree species. In 2008, 1,262,000 seedlings were shipped from the J. Frank Gaudet Tree Nursery to private lands across the province. FRP expenditures and grants totaled \$822,000 for 2008/09.

Maintenance was completed on 634 hectares of previously established private land plantations. Client uptake continued to increase for the pruning and plantation cleaning incentives with a total of 83 hectares treated. Both of these treatments will help to improve the growth and quality of softwood timber and saw logs. The Forest Renewal Program continues to be supported by the harvest and processing

industry, while landowner demand has shown a decrease, reflecting the reduction in harvesting remained steady for FRP services.

### **PEI Model Forest Initiatives**

The department continued to be an active participant in the PEI Model Forest Network Partnership project, along with other groups including industry and non-governmental agencies. This organization has partners involved in consensus building for sustainable forest management. The core funding in support of the PEIFNP was decreased by approximately 50 per cent with the elimination of the Model Forest Program and transfer of funding support to the Forest Communities Program.

In 2008 the PEI Model Forest Network Partnership was able to secure core funding of only \$48,000 from the Canadian Forest Service through their partnership with Nova Forest Alliance for the development and implementation of the work plan. Projects were funded to support the Virtual Wood Yard and further connections between landowners and forest-based businesses, develop a watershed restoration project, conduct a red pine thinning and utilization trial, and offer an upland game habitat management field day. The partnership also developed a proposal for a Landscape Level Planning project in western Prince Edward Island. The major project in the work plan was the beginning of a landscape level forest management planning exercise in western Prince Edward island plus the provision of educational opportunities for woodlot owners.

The department provided a staff member to serve as a part-time Project Coordinator.

### **Forest Harvest Trends**

Most of the wood harvested each year is cut on private lands. Public forest harvesting usually accounts for less than five per cent of the annual harvest volume.

Recent mill closures in Eastern Canada, combined with declining U.S. housing markets and the high Canadian dollar have had a major negative effect on forest products markets particularly for softwood products such as studwood and low grade pulp. Stumpage prices offered to Island woodlot owners have been in a steady decline since the highs experienced in the late 1990s. Many forest harvesting contracting companies have either downsized or changed the emphasis of their businesses, and this often means that land owners have difficulty finding markets or workers to carry out management and harvest treatments.

Forest inventory information over the last two decades has predicted a drastic decline in the amount of softwood fibre available for harvest by 2010. Industry's move to increased harvesting in mixed wood stands suggests that the predicted decline in pure softwood stand availability is becoming a reality.

The total log harvest for 2008 was estimated to be 307,000 cubic metres and nearly 57 per cent of the 2004 level of 710,500 cubic metres.

### **Softwood Products**

The Island's softwood harvest volume peaked at almost 550,000 cubic metres per year in 1999. In 2008, the softwood harvest was 71,000 cubic metres, of which saw logs and studwood accounted for 70 per cent.

### **Hardwood Products**

In recent years, the annual harvest has been estimated to be increasing, primarily due to demand for hardwood fuel. In 2008 hardwood harvested decreased from the 2006 and 2007 levels largely as the result of decreased industrial hardwood such as poplar and birch that had been sold into the fiber board market estimated to be 236,000 cubic metres.

The fuelwood (mostly hardwood) harvest for 2008 was 230,000 cubic metres and contributed an estimated \$8.0 million to the provincial economy.

While the volumes required are often small, many of Prince Edward Island's value-added forest products companies have expressed interest in sourcing more raw wood on-Island, particularly high quality hardwood logs. The value-added sector is working with various partners to develop ways of connecting local wood users and producers in a mutually beneficial manner.

### **Harvest Value**

The 2008 value of the delivered primary softwood forest products was estimated to be about \$38 million, while the total delivered value of all wood products was estimated to be \$53 million. The secondary wood products manufacturing industry (cabinets, flooring, furniture, etc.) contributed an estimated value of between \$20 and \$25 million annually to the provincial economy.

## ***Production Development Section***

In 1982 the provincial government named the provincial forest nursery in the memory of J. Frank Gaudet. Frank Gaudet was highly respected by all who knew him and his dedication to PEI's forests included the establishment of a provincial forest nursery, the development of forest improvement demonstrations, a private lands forest management program, and the development of a forest fire control system. Frank was a true visionary and devoted 28 years of leadership to the Forest Service on PEI.

Today, the J. Frank Gaudet Tree Nursery produces high quality improved tree seedlings for reforestation projects and wholesales native trees and shrubs to retail landscape trade. In 2008, some 1,641,557 seedlings, representing 13 softwood, 11 hardwood, and 13 native shrub species were shipped for the planting of cut-overs, riparian zones, hedgerows, Christmas trees, and special areas on private and public lands across the province. The following species are grown at the Nursery: Red, White and Austrian Pine; Red, White, Black, Norway, and Col. Blue Spruce; Eastern and Japanese Larch; Balsam Fir, Hemlock; Cedar; White and Yellow Birch; Red Oak, White, and Green Ash; Red and Sugar Maple; Poplar; Mountain Ash; Elm; Surface Berry; and a variety of native shrubs. The Nursery produces three different sizes of plant material for different programs: four and six cubic inch cell multi-pot trays for reforestation; 20 cubic inch cell multi-pot trays for hedgerow/shelterbelt/riparian zones; and one gallon pots for watershed/riparian zones.

Again this year, nursery staff offered tours to groups and individuals who were interested in visiting the largest seedling production facility on PEI. In 2008, 303 people from schools, youth, and conservation groups, as well as the general public, toured the facility; and Environment Week 2008, had 496 people visit the nursery to view displays on public and private forests, riparian zone management, environmentally-friendly agricultural practice, horticulture, farm safety, entomologist and native plants, and many other displays related to the natural resources on PEI.

To continue with our agreement, as part of the Atlantic Innovation Fund, the nursery assisted with the Native Rose Development, a five-year research initiative, at the University of Prince Edward Island. The nursery staff offer professional and technical direction, advice and assistance; provide a work area for a graduate student; a work area and labour for preparation of cutting material; materials and supplies for project (containers, growing media, rooting hormone, fertilizer); greenhouse facilities and operation (temperature and humidity controlled); fertilizer and pesticide programs; general crop maintenance after rooting; overwintering of crop; and delivery of crop. The nursery produced 2,200 plants from eight selected naturalized sites for project outplanting and established rose clone beds of five selected sites for reproduction.

Again this year, the nursery was involved with the Eastern Canadian Soil and Water Conservation Centre in supplying plant material and established three sites of over 2,000 plants for an agro-forestry demonstration.

In 2008, the nursery staff offered assistance to grow, harvest and package two potato varieties for the PEI Food Trust: 43kg Mayan Gold and 8.5kg PHV 951 potato; 350 square feet of greenhouse space was used in this project.

Also, in 2008, the nursery staff provided a greenhouse to the Potato Quality Institute to carry out seed virus testing.

The nursery gives advice, assistance, and information on insect and disease problems for ornamental plants, trees and shrubs, and provides detailed information on landscaping and plant health issues. In 2008, staff provided advice on landscape problems to thousands of PEI property owners; analyzed approximately 596 insect and disease samples; and made 57 on-site visits to individuals and communities. The nursery also monitors native insect populations and in February delivered an updated technical presentation on native and exotic insects to our field staff.

### **Tree Improvement**

The Tree Improvement Program produces the seed required for the nursery. This is achieved by controlled cross-breeding of selected high quality samples of several Acadian Forest tree species.

In 2008, measurements of 19 test sites were carried out, recording growth and survival and maintenance was also done on three test sites. This year, the Dover Seed Orchard provided 5.6 kilograms of improved seed and an ongoing maintenance program at the Dover Seed Orchard is carried out annually.

### **Greening Spaces Program**

The Greening Spaces Program (GSP) invites and encourages communities, schools, volunteers, and interest groups to plant trees that would diversify properties; buffer prevailing winds; provide shade; reduce noise; protect lands along streams and rivers; control soil erosion; create outdoor learning areas such as arboreta or tree and shrub nurseries; and provide habitat for wildlife.

In 2008, the GSP worked with 121 clients to establish over 83,000 native shrubs and trees in public and private land across the Province. Clients included 11 schools, 17 community groups (supplied 5,035 shrubs/trees), 26 watershed groups (supplied 33,003 shrubs/trees), and 67 hedgerow/riparian zone clients (supplied 45,307 shrubs/trees).

## ***Resource Inventory and Modeling Section***

### **Light Detection and Ranging**

In 2008 the entire province was flown by aircraft and high resolution elevation data was collected. This is the first time this new laser technology known as LiDAR, has been captured for an entire Canadian province. The data will be used across various government departments including:

#### **Environment**

- Vegetation Height Mapping
- Mapping the potential impact on tree species distribution under climate change
- Verification of hydrologic mapping

#### **Agriculture**

- Design of soil conservation structures
- Creation of 0.5m contour lines
- Slope Assessment

In addition, plans are underway to use the data in the generation of models which will assist in mitigating the impact of climate change. Examples include identification of areas at risk of storm surge events, soil erosion impacts and prediction of climate change on ground water contamination from salt water intrusion.

#### **2010 Inventory**

In preparation for the 2010 corporate land use inventory, research was done to examine new technologies for mapping land cover. A 35 square kilometre area in central Prince Edward Island was flown using digital photography (30cm resolution) and this was analyzed using softcopy photogrammetry. The results from the pilot will be used in assessing the most feasible approach to generating a new land cover map for Prince Edward Island

#### **Commission on Nitrates in Groundwater**

During the summer of 2008, staff were asked to assist in the identification of areas within the province which displayed high levels of nitrate in the drinking water. The results of water testing clinics were analyzed by watershed and land cover to produce a map of those areas at risk in the Island landscape. This was then used by the commission in generation of recommendations to alleviate the problem in Island waterways.

#### **Buffer Zone Mapping**

Due to changes in buffer zone legislation, all buffers were recalculated for the Island. Wetlands were revisited to ensure that those with an open water or marsh component were classified as having a non-farmable buffer while bogs and wooded swamps were classified as having a farmable buffer. The information was then made available to the public through [www.peilandonline.com](http://www.peilandonline.com)

#### **Plantation Mapping**

Plantations are mapped as they are established through a combination of GPS and GIS technology. This enables forest managers to keep track of all forest plantations and any followup activities or treatments.

#### **Placement of Wind Turbines**

In collaboration with the University of Moncton, a model was generated to assess all of Prince Edward Island for average wind speed. A map was generated showing those areas where placement of turbines would be prohibited due to legislation

#### **Hydrographic Network**

All streams on Prince Edward Island were mapped into a hydrographic network. This permits the immediate calculation of the amount of land impacted above any point along a stream. The network was made available to all parties requiring knowledge of Island streams.

#### **Watershed Mapping**

The section continues to provide mapping support to the various watershed groups. In 2009 a decision was made to provide property information to these groups to assist them in contacting landowners.

#### **Potato Grower Maps**

Before the potato planting season began in 2008 and 2009, the section provided maps to all landowners planning to grow potatoes. Legislated buffer zones and high slope land were included on the maps. In return, Cavendish Farms agreed to assure compliance of their growers with the legislation.

### **Emergency Measures Maps**

In 2009 staff of the emergency measures organization requested that they have access to hard copy maps showing the names of roads. Staff generated 8.5 by 11 inch maps showing road detail for the entire province.

### **Land Use and Property Information**

The Resource Inventory and Modeling Section continued to provide geographic information to the public through the production of hard copy maps and P.E.I. Land On-Line [www.peilandonline.com](http://www.peilandonline.com), an on-line mapping services for Island land owners. In addition, staff assumed responsibility from Provincial Treasury for the provision of property maps to the public.

The program also produces land use maps for forest sector clients, members of the public, and the Environmental Farm Plan program.

### **Ecosystem-Based Management**

Staff provided support to the MacPhail Woods Ecological Forestry Project in the form of mapping, Geographic Positioning System expertise, forestry equipment, technical staff support, discussions on potential silviculture prescriptions, and a review of draft Public Forest Land Management Plans for each property.

The second revision to the Ecosystem-based Forest Management Standards Manual was completed. Staff and the private sector were asked for possible changes and then the manual was updated and distributed. Once finalized the manual was incorporated into forest management programs for public and private lands.

### **Climate Change Research**

To address anticipated changes in forest cover with changing climate, we propose to generate spatial, landscape-level surfaces that represent the potential growth (PG) for deciduous and coniferous tree species of

strategic importance to PEI in cooperation with the University of New Brunswick.

### **Growth and Yield**

Staff continued to measure forest growth and change through the continued assessment of Permanent Sample Plots. More than 350 PSPs are located in a variety of forest types across the province and measured on a three-year cycle. Many of these plots are being measured for a seventh time, providing valuable detail on growth and change data that will be incorporated into the 2010 State of the Forest Report.

Plantation assessments are continuing to ensure planting quality (Year 0 assessments) and to monitor the early success and growth of plantations (Year 5, 10 and 15 assessments). This information will also be incorporated into the 2010 State of the Forest Report.

### **Plantation Mapping**

Plantations are mapped as they are established through a combination of GPS and GIS technology. This enables forest managers to keep track of all forest plantations and any followup activities or treatments for generations to come.

### **Woodlot Owner Survey**

The second Survey of Prince Edward Island Woodlot Owners was completed in cooperation with the Prince Edward Island Model Forest Network Partnership and the Canadian Forest Service. The survey was sent to 2,200 randomly selected Island woodlot owners. It will help in developing an unbiased picture of how woodlot owners view their woodlands and what factors influence their forest management and harvest decisions. As well, this information may be used to help government revise existing programs and policies to better meet the needs of woodlot owners.

## **Freshwater Fisheries Section**

### **Wildlife Conservation Fund**

The Prince Edward Island Wildlife Conservation Fund (WCF) was created in 1998 to support conservation initiatives led by community-based groups. Money for the fund comes from a \$20 contribution made once per year by each licensed angler, hunter and trapper. The money raised through the Wildlife Conservation Fund is distributed to wildlife conservation projects across the province following the review by the WCF Advisory Committee of submitted applications from groups and organizations. As of January 2006, the PEI Wildlife Conservation Fund is overseen by a committee composed of 10 members including:

- three representatives from the angling community,
- three representatives from the hunting community,
- one representative from the trapping community,
- one representative from community watershed groups,
- one representative of non-consumptive users such as bird-watchers and hikers,
- one representative from the Department of Environment, Energy and Forestry.

Island Nature Trust serves as the day-to-day administrator of the Wildlife Conservation Fund, under the direction of the Wildlife Conservation Fund Committee.

In 2008, the PEI Wildlife Conservation Fund Advisory Committee approved funding for 26 projects totaling \$134,146. To see the complete report contact: Island Nature Trust, (902) 892-7513, [wcf@isn.net](mailto:wcf@isn.net).

### **Public Awareness and Education**

Staff from the section are regularly called upon to make presentations to various schools and community organizations.

A youth waterfowl workshop held in September continues to be a success with over 100 participants. Youth ages 12 to 18 were exposed to a variety of outdoor topics including, outdoor survival, wildlife identification, wildlife management, firearm safety, bow hunting and trapping. Youth who wished to get their hunter safety certification were given the opportunity to complete educational material beforehand and do the practical component on this day in order to receive hunter education certification.

### **Environment Futures Program**

The Environment Futures Program (EFP) helps to educate high school and university students on the importance of wildlife protection and habitat enhancement. EFP employed 40 students in 2008/09. There were 10 crews consisting of three crew members and a supervisor, typically high school and post secondary students returning to school. A competition and interviews were held for supervisor positions, with priority given to individuals enrolled in the fields of biology or environmental study. Crew members are provided through the Employment Development Agency.

The EFP crews take the initiative to get involved and assist other groups in improving wildlife habitats and other environmental projects across the Island. In 2008, EFP completed 29 registered projects. Some of the projects that the crews were involved with included; brush mats and bridge building, tree planting, garbage clean ups/surveys, beaver dam removal, protecting and enhancing natural areas, trimming trails, participated in the Community Aquatics Monitoring Program (CAMP) and removed invasive species such as the Glossy Buckthorn and Policemen's Helmet. The tasks and projects gave the students an opportunity to help their communities save and replenish their environments and encourage the public to do the same. This provides a positive future to our students in hoping they will take what they learned into their future endeavors.

#### **Protected Area Biodiversity Conservation**

In Dec 2008, four privately owned parcels of lands and containing 84.11 hectares (207.8 acres) were designated under the *Natural Areas Protection Act* (NAPA). A parcel in Coleman 4.25 ha (10.5ac), along the Trout River Riparian Zone, an important waterway to fishermen and canoeists. The river has a good gravel bottom and is known for its salmon and trout populations. Also, a parcel in Bangor along the Morell River Riparian Zone of 38.8 ha (96 acres). Besides the river frontage, the property includes limited mixed woodlands and extensive old field habitat in various stages of regeneration, providing a diversity of habitat for wildlife.

The St. Peters Lake Run, purchased by the Nature Conservancy of Canada for the purpose of conservation. This 24.28 ha (60 ac) site includes sand flats, sand dunes, a few areas of cobble, and salt marsh. Site

management will ensure the long term protection of the area and the maintenance of the natural features of the site including the endangered Piping Plover and other native species.

The Holm Cove Natural Area 16.78 ha (41.47 acres) on Point Prim, was protected as Exceptional and Diversified Scenery under Clause 1(B)(iii) of the Act. Management will ensure conservation and maintenance of over 3.5 kilometres of undisturbed shoreline and salt marsh.

#### **Wood Harvest on Provincially Owned Land**

In 2008, Forest Management Plans were prepared for seven parcels of land within Wildlife Management Areas. Mature and over-mature stands of white spruce and balsam fir were recommended for over-story removal to promote stand regeneration. Harvests were timed to avoid nesting and denning periods (April 15 through August 15) and were completed during dry or frozen periods to lessen impacts on the ground.

Harvested lumber was traded with a private landowner for the acquisition of a parcel of land within the Forest Hill Wildlife Management Area.

#### **Eastern Habitat Joint Venture**

This program focuses on the protection, restoration and enhancement of wetland habitats within the province. An important component of the Eastern Habitat Joint Venture Stewardship Program (EHJV) continues to be to work with the agricultural community to remedy the detrimental impact of farming practices on the Island's streams and wetlands. Direct financial assistance from EHJV partners has been provided in past years in support of agricultural soil conservation projects and

fencing livestock from watercourses and wetlands, for example. These types of projects are currently funded through the Canada-Prince Edward Island Stewardship Program (CPEISP), as are Constructed Wetlands and Agricultural Wetland Restoration projects designed to enhance or restore wetlands associated in the agricultural landscape. Ducks Unlimited Canada is the lead agency in delivering the wetland enhancement component of the CPEIS, which includes Farm Pond Construction, Rural Biodiversity and Wetland Restoration Programs. Wildlife Habitat Canada provided funding support to these activities in 2008.

The EHJV also acquires wetland properties, often in support of the Provincial Protected Areas and Biodiversity Conservation Program. Ducks Unlimited Canada and the Nature Conservancy Canada partner with the FFW Division in this activity. Two properties were acquired through the EHJV partnership in 2008; a 70 acre property in North Enmore with 15 acres of salt marsh habitat and 22 acres of fresh water wetland, and a 15 acre property adjacent to Brooklyn Pond.

It is especially notable that the partners of the PEI Eastern Habitat Joint Venture hosted the North American Wetland Conservation Council at the Rodds Brudenell Resort in July 2008. The meeting was coordinated by the Canadian Wildlife Service of Environment Canada and the Canadian Wetland Conservation Council and North American Wetland Conservation Plan Update Committee participated in the three day meeting.

### Protected Areas

In late 2005, the *Natural Areas Protection Act* (NAPA) was amended to require public consultation prior to designating lands as Natural Areas under the Act. It was also changed to permit the de-designation of public lands designated as Natural Areas following a consultation process.

In 2008-09, four private properties totaling 84 ha (208 acres ) were designated under NAPA for protection in perpetuity. These properties included lands at Trout River Riparian Zone, Morell River Riparian Zone, coastal land at Point Prim and sand dunes at St Peters Lake.

Nature Conservancy of Canada (PEI Inc.), with cooperation of provincial and federal governments, completed the acquisition of 158 ha (391 ac) Boughton Island in 2008. The land was subsequently transferred to the Province for inclusion as a Natural Area. In addition, 6.9 ha (17 ac) was acquired for inclusion in existing Wildlife Management Areas.

Marram grass was planted to repair damage to the dunes at Basin Head dunes and Natural Area (6,000 plants); Little Harbour Natural Area (3,500 plants) as well as at Panmure Island Provincial Park (3,000 plants).

The Division harvested some older age-class softwoods in several Wildlife Management Areas. This will allow regeneration of a new cohort of trees. The areas were as follows: Dromore 5.9 ha (14.5 ac), Martinvale-Corraville 16.2 ha (40 ac), Pisquid, 6.5 ha (16 ac) and Southampton, 8.3 ha (20.5 ac).

**Accord for Protection of Species at Risk**  
The Forests, Fish and Wildlife Division continued to participate in national processes under the Accord for the Protection of Species at Risk. The publication *Wild Species 2005: The General Status of Species in Canada* became available online in 2006. ([www.wildspecies.ca](http://www.wildspecies.ca)) It incorporates the work of knowledgeable experts and volunteers in Prince Edward Island and across Canada to assign status ranks to species in the country.

Species groups included for Prince Edward Island and numbers (bracketed) are vascular plants (1052), freshwater mussels (2), tiger beetles (5), odonates, i.e., damselflies and dragonflies (66), fishes (27), amphibians (10), reptiles (3), birds (337) and mammals (35). The coarse evaluation of risk for the 1,537 species indicated the following:

1. Extirpated: 12 (<1%)
2. Extinct: 1 (<0.1%)
3. At Risk: 3 (<0.1%)
4. May be at Risk: 208 (14 %)
5. Sensitive: 99 (6%)
6. Secure: 607 (39%)
7. Undetermined: 80 (5%)
8. Not Assessed: 2 (<0.1%)
9. Exotic: 375 (24%)
10. Accidental: 150 (10%)

In 2008, updated status ranks were assigned to mammals, amphibians and reptiles, and the following insects: dragonflies and damselflies, horse flies and deer flies; mosquitoes and black flies; and tiger beetles.

As endangered species legislation is implemented in Canada, the division participated in the spring meeting of the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), and reviewed the degree of endangerment of 32 species of wildlife. Many climate change models predict an increase in the intensity and frequency of winter storms. The Beach Pinweed, a plant of coastal dunes in New Brunswick and Prince Edward Island, is at risk from high storm surges and was listed as Special Concern. The Canada Warbler, a breeding bird on PEI was listed as Threatened while the Short-eared Owl was confirmed again as Special Concern.

The province continued to support conservation programs for the endangered Piping Plover on Island beaches and participate in the Piping Plover Recovery Team for the *melodius* subspecies.

The Division contributed information and support to the Maritimes Breeding Bird Atlas, a five-year project (2006-2010) to document the distribution and relative abundance of breeding birds. The first Atlas was completed in 1990.

### ***Wildlife Population Assessment and Habitat Section***

#### **Status of Wildlife**

Waterfowl breeding pairs and brood surveys were conducted in 2008. These surveys provide an annual index of waterfowl production for wetlands across the province and supply essential data for regulatory management decisions. Annual spring breeding pair counts have shown a stable to increasing population trend from 1995 through 2007.

Weekly surveys of wintering waterfowl were conducted on 33 sites in January and February. Results provide an index to changes in numbers, species composition and distribution of wintering waterfowl. Survey results are given in Figure 1.

Efforts were also directed at banding locally produced ducks with the assistance and co-operation of the Canadian Wildlife Service. Waterfowl banded in the summer of 2008 included Black Ducks, Blue-winged Teal, Green-winged teal, American Widgeon and Mallard. Three hundred Black Ducks and Mallards were banded during the winter. The spring Canada Goose banding program continued in 2008, using rocket nets to capture the birds. Bald Eagles were banded, in a continuing effort to gain information on migration patterns and mortality factors for eagles raised at Island nest sites.

The November Canada goose aerial survey program continued in 2008 in co-operation with the Canadian Wildlife Service. The count was higher than 2007 but represented a decline of 18 per cent from the previous 10-year average. Black Ducks counted during the survey decreased 14 per cent from the previous year and decreased 18 per cent from the previous 10-year average. During the survey, 23,650 Canada Geese and 12,624 Black Ducks were observed.

Other wildlife surveys conducted during 2008 included the Cormorant nest counts, Woodcock singing ground survey, and the annual monitoring of the wild fur industry.

In 2008 the province continued to partner with the Island Nature Trust in the Bald Eagle Guardian Program. This complements the Adopt an Eagle Program and allows interested people to provide scientific

information to the Fish and Wildlife Section and monitor the nests for success and human disturbance.

#### **Wildlife Management**

Two trappers were hired from April to October to mitigate highway beaver problems across the Island. This reduced beaver problems, saved the Department of Transportation and Public Works valuable machine time, and resulted in improved Beaver management.

The division continued to work with the Department of Agriculture, Aquaculture, and Fisheries, the Sheep Breeders Association, and the Federation of Agriculture in dealing with problems associated with coyotes. The division continued to monitor the population status, reproduction, food habits and annual harvest. As well, efforts continued to educate the general public on dealing with Coyotes.

#### **Geographic Information System**

As part of the Corporate Land Cover and Land Use Inventory (2000), the Fish and Wildlife Section continued to update the Wetland Inventory in the government Geographic Information System (GIS). The section continued to maintain and improve other resource layers and develop more effective means of delivering GIS products within the department, interdepartmentally and externally.

The need to improve the accuracy of both the watershed and hydrographic (watercourse) layers is a priority. Most government resource agencies, as well as numerous community groups concerned with watershed management, use the watershed and hydrographic layers to develop watershed management plans,

calculate soil erosion risk indices, develop groundwater models, produce buffer zone calculations, etc. More precise layers are needed to meet these objectives. Both the watershed and watercourse layers are being updated.

The Forests, Fish & Wildlife Division is represented on both the GIS Co-ordinating Committee and the GIS Technical Committee which serve to develop and implement a policy framework for creating and distributing government GIS data.

#### **Firearm Safety/Hunter and Trapper Education**

The five-year contract signed in 2003, in which the Forests, Fish and Wildlife Division subcontracted the delivery of the Canadian Firearms Safety Course and the Hunter Education Course to the PEI Wildlife Federation, expired in 2008. The Forests, Fish and Wildlife Division resumed the delivery of these programs in April 2008.

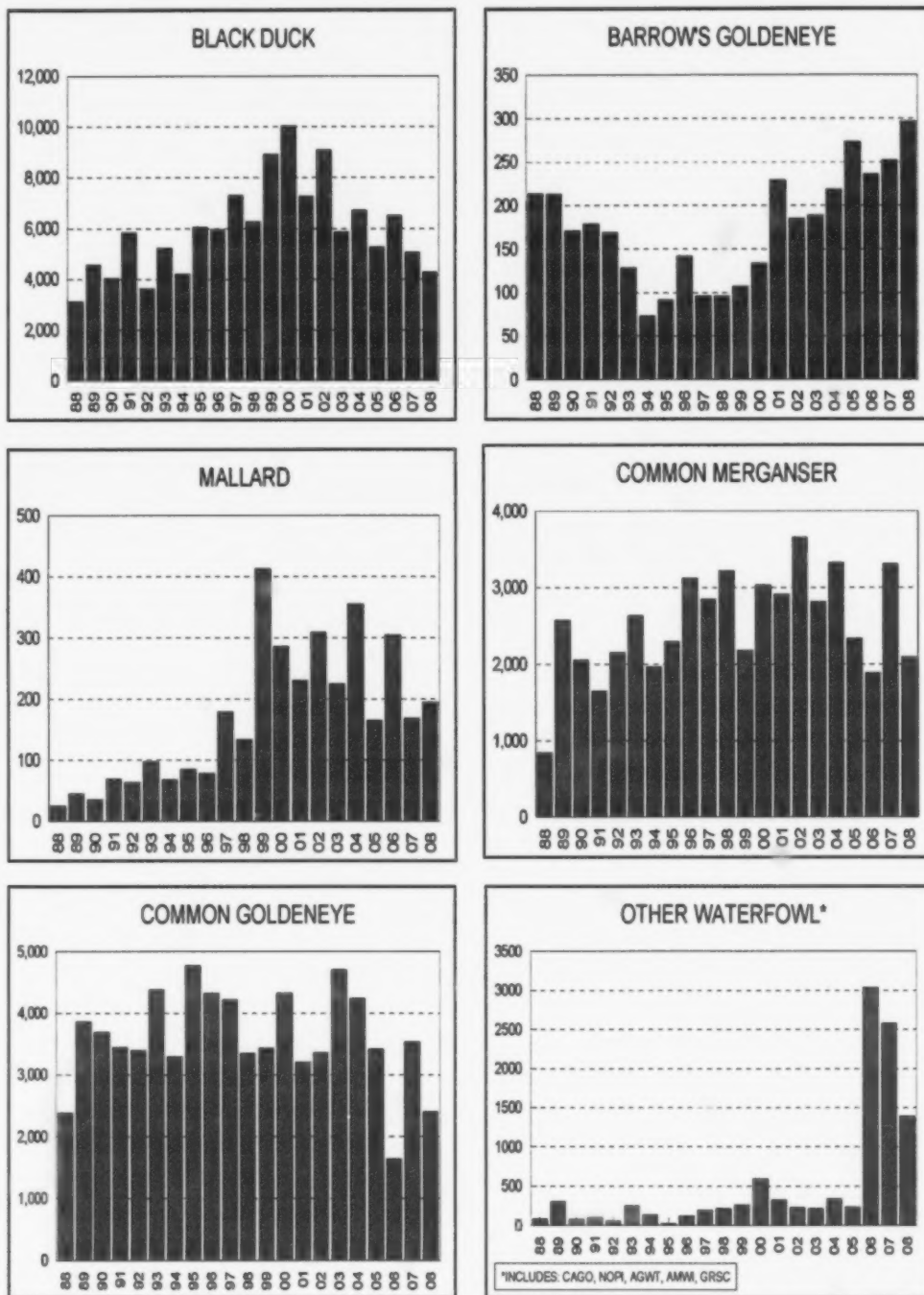
In 2008, 16 volunteer Canadian Firearms Safety Course instructors provided training and testing for over 500 people, covering the non-restricted and restricted firearms safety courses. (Non-restricted refers to long guns, for the most part hunting rifles and shotguns. Restricted refers to mostly to handguns, used by target shooters and law enforcement officers). Most of the restricted firearm students were from the Atlantic Police Academy program. The Forest Fish and Wildlife Division maintains a file system for clients who have completed the Canadian Firearms Safety Course training, maintains an inventory of firearms used for training, and co-operates with the Provincial Firearms Office and the Atlantic Police Academy.

The PEI Wildlife Federation was also responsible for the delivery of the provincial Hunter Education training until April 2008. In 2008, the Hunter Education Program was delivered to 130 students. There are 20 qualified Hunter Education volunteer instructors. The Forests, Fish and Wildlife Division maintains the legislative requirements to issue Hunter Safety Certificates required by all hunters.

No Bow Hunter courses were held this year. Bow hunters require this special course if they wish to hunt using a bow in other provinces.

A youth exchange will be completed in partnership with New Brunswick in 2009. A young person from Summerside was chosen to hunt with her father in New Brunswick but because age requirements differed in New Brunswick, she will complete this trip in 2009. As part of this exchange, a youth and his father from New Brunswick were given the opportunity to hunt in Prince Edward Island in 2008. In addition they were supplied with hunting gear from a variety of sponsors.

Figure 1: Total maximum waterfowl counts at 33 winter survey sites by species.



Trapper education is required for all first-time trappers. Training is conducted jointly by the department and the Prince Edward Island Trappers Association. Twenty-five students received training in 2008, at a two-day course held at Upton Road in October. In addition, 19 students at the Wildlife Technologist Course at Holland College participated in the two-day course and obtained certification. In all, 44 students passed the trapper education course in 2008, the highest participation rate to date.

### **Freshwater Fisheries Section**

#### **Regulations**

The east branch of the Tryon River was closed to angling in 2008. The Dunk River remained open but was limited to catch and release only, with a barbless lure or fly. These conservation measures were implemented following fish kills in 2007.

#### **Recreational Fisheries Policy**

In 2008 the Recreational Fisheries Advisory Committee was requested to solicit public input into the development of a Recreational Fisheries Policy. A discussion paper was prepared to provide background on six core issues: angler recruitment, access, habitat restoration and land use, stocking, regulations and future threats.

A report summarizing the groups findings titled *"Fostering a Quality and Sustainable Angling Experience in Prince Edward Island"* was received. Government will review the recommendations and it is anticipated that the first Recreational Fisheries Policy for Prince Edward Island will be released in 2009.

#### **Monitoring and Assessment**

All index rivers ( Mill River, Little Trout River (Richmond), Wilmot River, West River, Morell River and Souris River) were electrofished to determine salmonid populations for long term monitoring.

Angler creel surveys were carried out for opening day on the Morell River (April 15). Sixty-two anglers were surveyed and a total of 150 brook trout were measured. The average length of brook trout was 29 cm.

The division continued to collect fish in selected areas for analysis of mercury as part of a joint initiative with the New England Governors and Eastern Canadian Premiers Mercury Task Force. Fish were sampled from O'Keefe's Lake, with testing completed at Environment Canada's Environmental Quality Section Laboratory in Moncton, New Brunswick. The health advisory regarding consumption of fish from O'Keefe's Lake remains in effect. The division will continue to monitor mercury levels in fish from selected areas of Prince Edward Island on an annual basis.

#### **Fish Stocking**

Brook trout were stocked into the Tryon River and Dunk River to help the fish populations recover following the fish kills in 2007. Rainbow trout were stocked in O'Keefe's Lake and Glenfinnan Lake in support of a winter ice fishery.

A proposal for fish stocking was developed and the Department of Environment, Energy and Forestry, Department of Fisheries and Oceans and PEI Wildlife Federation contracted Dover Fish Hatchery Ltd to produce fish to implement the stocking proposal. Two years of funding was secured.

The year 2008 represents the second and final year of the program. The proposed stocking plan has four elements; brook trout for restocking following fish kills or other catastrophic events, brook trout for family fishing days and stocking of ponds, Atlantic salmon enhancement and rainbow trout stocking for winter ice fishery.

#### **Fish Kill Investigation**

No pesticide related fish kills were discovered in 2008. Several reports of dead smelts occurred which are considered natural mortality.

#### **Angler Participation**

The Family Fishing Weekend was once again held during the long weekend in May. In support of this venture, no angling licence was required to fish from May 16 to 19, 2008 .

Anglers were given the option of purchasing their license online.

#### **Impoundment Management**

Management activities continued at three impoundments across the province. The water level at Eastons Pond in Georgetown was restored by repairing a breach in the earthen dam. Ducks Unlimited Canada partnered with the division in this resoration project. Structural repairs were completed to the concrete header walls of the water control structure and the fish ladder baffles at the Maritime Electric Pond on the Valleyfield River. The lease with the Valleyfield Anglers Association was not renewed. In addition, new fishway baffles were constructed at MacPherson's Dam in Belle River and Scales Pond in Freetown in 2008. In addition, water levels at Glenwood Pond was lowered for management purposes at the request of the local Community Group.

## Pollution Prevention Division

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### Mandate

The Pollution Prevention Division has a mandate to promote the protection and responsible stewardship of our environment and natural resources. This includes responsibility for quality of our air, water, soil and natural habitat; assessing the impact of undertakings on human health, animal health and the environment; and the management of pesticide use in the province. Activities which help promote public acceptance of responsibility for the environment and sustainability of our natural resources are included in this mandate.

### Overview

The Pollution Prevention Division administers a wide range of programs, legislation and activities which are designed to protect the quality of water, soil, air and landscape in the province. The activities include measures to preserve, control or enhance: outdoor air quality, the ozone layer, climate change factors, noise, solid waste management, management of hazardous waste, litter, excavation pits, unsightly properties, automobile junk yards, beverage containers, pesticide use, petroleum storage tanks, used motor oil, tires, and special projects. Promoting pollution prevention and environmental stewardship, and educating all Islanders on responsible environmental practices are key initiatives of the division. Staff participate on a number of provincial, regional, national and international committees regarding pollution prevention,

air quality, climate change, noise, pesticide use and management of waste and toxic substances.

The division is responsible for the following legislation and regulations.

- *Environmental Protection Act*, particularly Sections 9, 20 and 24
  - Air Quality Regulations
  - Ozone Depleting Substances Regulations
  - Excavation Pits Regulations
  - Lead Acid Battery Regulations
  - Litter Control Regulations
  - Used Oil Handling Regulations
  - Petroleum Storage Tanks Regulations
  - Waste Resource Management Regulations
- *Pesticides Control Act*
  - Pesticide Control Regulations
- *Automobile Junk Yards Act*
- *Unsightly Property Act*
  - Unsightly Property Regulations

### Air Quality and Hazardous Materials Section

#### Petroleum Storage Tank Program

Petroleum hydrocarbon products are by far the most commonly used hazardous materials in the province and are an essential component of our Island economy. The department continues to lead the country in preventive efforts to avoid petroleum spills, and in using the most up-to-date science to determine the necessary corrective action when petroleum spills do occur.

On the preventive side, the Petroleum Storage Tank Program focused on the handling and storage of petroleum products according to the provisions and regulations of the *Environmental Protection Act*. In 2008, there were 14 underground storage tank spills compared to 167 in 1992 (when the program became fully active); and 156 aboveground home heat tank spills (33 of five litres or less) compared to 293, 162, 191, 179, 146, 132, and 148 spills in 2001, 2002, 2003, 2004, 2005, 2006, and 2007. There was a slight rise in spills from 2007 to 2008 possibly due to the fact that there was heavy snowfall and ice in 2008.

In 2008 the Home Heat Tank Program continued its focus on educating the public on potential environmental and groundwater contamination associated with spills from small capacity fuel oil storage tanks. This year we started sending notifications to homeowners who had tanks that expired in 2008 indicating the month by which the tanks needed to be replaced. By December 31, 2008, more than 46,615 home heat tank systems had been inspected, tagged and registered with the department.

**Atlantic Canada Harmonized Approach on Petroleum Contaminated Site Management**  
The division continued its participation in the Atlantic Partnership in Risk Based Corrective Action Implementation. This group has a mandate to develop and maintain the technical tools required to manage the risk-based corrective action process, harmonize the management processes and best practices among the four provinces, and manage implementation within the region. Members of Atlantic PIRI include regulators from the environmental protection departments of the four Atlantic Provinces, representatives from Environment Canada, the national petroleum industry, and regional environmental and communications consultants.

Flexibility, reliability and scientific credibility anchor the Atlantic Risk Based Corrective Action (Atlantic RBCA) approach. To maintain these standards, and to ensure continued harmonization, Atlantic PIRI reviewed the January 2008 Canada-wide Standards for Petroleum Hydrocarbons in Soil (PHC-CWS). The review identified areas where revisions to the Atlantic RBCA software tool will be required.

PIRI obtained a renewed *Memorandum of Understanding* that reflected the interest in increased regional harmonization around contaminated site management and redevelopment.

In 2008, 101 reported spill files were closed where contaminated soil removal had effectively remediated the impacts from the loss of petroleum products. At sites where the impacts were more extensive, it was necessary to obtain additional technical information to plan appropriate remedial action.

Environmental consultants completed Environmental Site Assessments (ESAs), and assessed soil and groundwater to determine the full extent of the spills. In 2008, 28 spill files were closed where ESAs were completed.

In 2008, 79 petroleum contaminated sites were monitored with departmental staff either supervising the on-site cleanup procedures or monitoring a consultant's remedial actions to ensure that the cleanup took place in a timely manner and to a level that protected both human health and the environment.

Phase I ESAs are commonly required by purchasers or the purchaser's lending institution, although they are not required by the department. The division has been involved since April 1997, in searching records for past activities on a property that could be interpreted as contributing to existing contamination, and monitoring remediation efforts. In 2009, 833 Environmental Records Review Requests were completed.

The section continued its participation in the following provincial, regional, national and international programs.

- National Air Pollutant Surveillance (NAPS) Program (federal/provincial)
- Emissions and Projections Working Group (federal/provincial)
- National Pollutant Release Inventory (NPRI) Work Group (federal/provincial)
- Air Management Committee (federal/provincial)
- Air Quality Health Index Management Committee (federal/provincial)
- Atlantic Region Air Issues Team (regional – federal/provincial)
- Air Quality and Acid Rain Steering Committee (regional – Atlantic Canada/New England States)
- Canadian Council of Ministers of the Environment, Canada-wide Standards on Mercury (federal/provincial)
- Atlantic PIRI [Partners in (Risk-based Corrective Action)] Implementation
- Children's Secretariat on Healthy Child Development (provincial)
- Federal-Provincial Working Group on Ozone-Depleting Substances and Halocarbon Alternatives
- Mercury Task Force (regional – Atlantic Canada/New England States)
- CSA B-139 Technical Committee on the Installation Code for Oil-Burning Equipment - Federal/Provincial/Industry

#### **National Air Pollutant Surveillance (NAPS) Program**

Ambient air samples collected at Charlottetown, Wellington and Southampton NAPS stations provide information to the province and Environment Canada on ground level ozone, sulphur dioxide, nitrogen oxides, mercury, particulate matter and acid rain levels found in the local air. Eighty per cent of the installed equipment operates continuously and sends data hourly to a central computer in Charlottetown for processing and distribution to our partners.

The Air Quality and Hazardous Materials Section continued to provide data for the Air Quality Forecast Program (launched in June 2000 as the Smog Forecast Program) in partnership with Environment Canada, the Prince Edward Island Department of Health, and the PEI Lung Association. Environment Canada issues the forecast twice a day, at 5 a.m. and 4 p.m., from May 1 until the end of October. The forecast can be accessed by telephone in each of the three counties, at the Environment Canada website, and from a link at the Department of Environment, Energy and Forestry website. It provides a two-day prediction of expected levels of ground-level ozone and fine particulate matter.

| Current Air Quality Monitoring Equipment Distribution |   |  |
|---|---|--|
| Location  | Equipment   | Sample Frequency   |
| Charlottetown   | Ground level ozone<br>Sulphur dioxide<br>Nitrogen oxides<br>Fine particulate matter (PM <sub>2.5</sub> )  | Continuous<br>Continuous<br>Continuous<br>Continuous   |
| Southampton   | Mercury<br>Acid rain<br>Ground level ozone<br>Nitrogen oxides<br>Fine particulate matter (PM <sub>2.5</sub> ) - continuous<br>Fine particulate matter (PM <sub>2.5</sub> ) - 6 day sample, reference standard | Continuous<br>Triggered by precipitation events<br>Continuous<br>Continuous<br>Continuous<br>Every sixth day |
| Wellington  | Ground level ozone<br>Nitrogen oxides<br>Fine particulate matter (PM <sub>2.5</sub> )   | Continuous<br>Continuous<br>Continuous   |

Annual emissions testing at the PEI Energy Systems incinerator showed that most emissions were up relative to last year, with mercury significantly above the allowable maximum. Additional work will be done with the air pollution control system at the facility.

#### Mercury and Fish

Fish tissue sampling for mercury, ongoing since 1998, continued. For the first time in April of 2005, it was necessary to issue a mercury fish advisory for Prince Edward Island. The Health Canada maximum allowable limit of 0.50 mg/kg, was exceeded in samples taken from O'Keefes Lake. The samples collected in July of 2005 and January of 2006 from this lake were also in excess of the guideline.

The following table illustrates key statistics for air quality and hazardous materials.

| Type of Review   | 2009 Key Statistics                          |
|--|--|
| Inspections of refrigeration/air-conditioning equipment at landfills                 | 3,647  |
| Recovery of ozone depleting substances from landfills                                | 3,298 units with<br>433 kg of ODSs recovered |
| Investigation of petroleum spills  | 320  |
| Removal of underground petroleum storage tanks                                       | 41   |
| Recorded home heat tank/storage tank spills  | 156  |
| Records Review Requests  | 833  |
| Registered generators of hazardous waste*  | 490  |
| Shipping manifests processed   | 929  |
| Hazardous Waste shipped for disposal/recycling                                       | 2,199,737 kg                                 |
| Import of lead-acid batteries to the province  | 26,597                                       |
| Recovery of lead-acid batteries for recycling out-of-province**                      | 20,304 (79.8% recovery)                      |
| Number of after-hours calls received by the Environmental<br>Emergency Response Team | 106  |

\*The *Transportation of Dangerous Goods Act* requires that generators of hazardous waste register with the department and provide information about the types and quantities of wastes generated.

\*\*Lead-acid batteries can represent a threat to groundwater as their components have the potential to leach into soil. With the development of the lead-acid battery recovery program, attempts to reduce the risk have been highly successful.

### ***Climate Change Section***

Pollution Prevention maintains responsibility for climate change and greening of government activities and programs government-wide. Staff coordinate and participate in climate change activities throughout the province, monitor compliance with provincial commitments (including the New England Governors and Eastern Canadian Premiers Climate Change Action Plan), and represent the province on national and regional committees.

#### **Climate Change Strategy**

A provincial climate change strategy - Prince Edward Island and Climate Change- A Strategy for Reducing Climate Change was released in November 2008. This plan includes 47 action items that will help ensure that the province meets its commitment to reduce emissions and prepare for climate change.

A Government Working Group on Climate Change was formed in December 2008, holding meetings to address actions in the newly released Climate Change Strategy.

A public information session on Climate Change was held at UPEI March 2009, that included a review of the new Climate Change Strategy and the science of projected climate change impacts

#### **New England Governors and Eastern Canadian Premier**

Prince Edward Island is a member of the Conference of New England Governors and Eastern Canadian Premiers and a signatory of the Climate Change Action Plan (2001). Pollution Prevention staff have been working with other members of the Climate Change Steering Committee to implement initiatives of the Climate Change Action Plan, including the Energy Dialogue - Renewable Energy and Energy Efficiency held in Charlottetown and a College Greening forum.

Climate change continues to be an intergovernmental priority with the province continuing membership in The Climate Registry, a multi-state, provincial, territorial and organizational collaboration aimed at developing and managing a common GHG reporting system.

#### **Regional Adaptation Collaborative (RAC)**

In June 2008 the Atlantic Environment Ministers agreed to work jointly on a regional climate change adaptation collaborative to help mitigate the impact of climate change and as a result a Letter of Intent was submitted to Natural Resources Canada (NRCan) on behalf of the four Atlantic Provinces to as part of the Atlantic Regional Adaptation Collaborative (RAC) on Climate Change, July 2008.

#### **Centre for Climate Change Strategies**

The Speech of the Throne, spring 2008 announced the creation of a Centre for Climate Change Strategies, to be aligned with federal and regional initiatives and as a result, in March 2009 a developmental.

Organizational and implementation plan was proposed for such a centre.

#### **Energy Efficiency**

The Office of Energy Efficiency ( OEE) was launched in January 2008 and by March 2009 had provided advice and assistance to thousands of households seeking to curtail energy consumption. The OEE delivers program initiatives that reduce energy consumption and greenhouse gas emissions (GHG's). Over the next 10 years the program is expected to achieve a GHG reduction of 150,000 tonnes.

Energy efficient lighting campaigns, including *A Bright Idea* (2006), *greenlight!* (2007) and school CFL fundraising are reducing GHG emissions by over 40,000 tonnes each year.

The number of people utilizing the Charlottetown Transit system continued to increase with a maximum monthly ridership of 20,172 reached in October 2008.

#### **Renewable Energy**

About 15 per cent of all electricity used in the province was currently generated by renewable energy sources. This was a legislated target for 2010 that was already met in 2007.

The PEI government is currently researching options in order to adopt a new energy efficient standard and implement codes and practices in line with providing unified energy efficient building standards across the province that match or better current best standards for energy efficient building construction in Canada.

### **Pesticide Regulatory Program**

The Pesticide Regulatory Program maintains responsibility for administration of the *Pesticides Control Act* and regulations. This includes the review and update of legislation, licensing of commercial pesticide applicator and vendor businesses, certification of private pesticide applicators, and the issue of pesticide application permits.

### **Legislation**

New *Pesticides Control Act* regulations, designed to safeguard human health and protect the natural environment of the province, were approved by Executive Council in late December 2005. Designed to safeguard human health and protect the natural environment of the province, these regulations require the licensing of pesticide vendor and applicator businesses; instate mandatory certification of private and commercial applicators, as well as vendor sales personnel; introduce new loader/mixer and applicator categories; lower allowable wind speeds for the application of pesticides; and establish restrictions on the transport and storage of pesticides.

In 2008, the regulations were amended to introduce a new program for the delivery of continuing education credits (CECs). The accumulation of CECs provides a second option for agricultural pesticide applicators wishing to renew their applicator certificate. Responsibility for administration the CEC Program, as well as tracking of CECs, was transferred to the PEI Department of Agriculture in late 2008. Over 600 individuals now actively participate in the CEC Program.

Other amendments eliminated the need for individuals transporting a concentrated pesticide to hold a Mixer/Loader Certificate, and empowered the Department to request risk impact assessment studies prior to the issue of a Pesticide Application Permit.

### **Licensing and Certification**

The numbers of Pesticide Applicator Business Licenses held in 2008 are as follows: Agricultural (2), Landscape (7), Structural (6), Biting Fly Control (2), Forestry (1), Structural Fumigation (2), and Seed/Seed-piece Treatment (5).

Across the Province, twenty-five (25) vendor companies held a Non-domestic Pesticide Vendor Business License. Twenty-two (22) Domestic Pesticide Vendor Business Licenses were issued.

Training sessions were offered for a number of applicator certification categories, specifically Class D (seed treatment) and Loader/Mixer. At present, over 2,800 people hold a private pesticide applicator certificate. Training was also provided for individuals seeking a Domestic Pesticide Vendor Certificate.

### **Pesticide Application Permits**

Keeping with a trend that began last year, the number of permits issued for biting fly control (17) was down some 37 per cent from 2007. Three Schedule 1 Permits (covering 35 hectares) were issued for the application of a soil fumigant.

### **Beverage Container Program**

The Beverage Container Act (BCA) came into effect on May 3, 2008, in recognition of the rapidly expanding selection of beverages that would be made available to Islanders and our visitors, along with the obvious need to

establish an environmentally sustainable management system for the recovery and recycling of the increased volumes of used beverage containers (UBC's).

During the first 11 months of the program (May 2008 - Mar 2009) consumers purchased in excess of 50 million ready to serve non-dairy beverages.

The Beverage Container Program utilizes the deposit/refund model, a format that has consistently resulted in higher levels of recycling in other jurisdictions. Fifty per cent of the deposit paid by consumers at the point of purchase is refunded to them when the UBC's are returned to depot.

Approximate 50 per cent of all beverage containers are made of aluminum, while 30 per cent are PET (plastic) and 10 per cent are glass. 78 per cent of all beverages purchased are non-alcohol, while unit purchases from the PEI Liquor Control Commission account for the remaining 22 per cent of beverage purchases.

With an overall recovery rate of 81 per cent for recyclable containers during the first 11 months of operation under the Beverage Container Act, Prince Edward Island leads the nation in the recovery, reuse and recycling of used beverage containers.

### ***Environmental Assessment Section***

The Environmental Assessment Section deals with proposed developments which may qualify as undertakings as defined in the *Environmental Protection Act*. In addition, the section co-ordinates the subdivision environmental review process for provincial and municipal authorities, and administers the Waste Resource Management

Regulations, the Excavation Pits Regulations, the *Unightly Property Act*, the *Automobile Junkyard Act*, and the *Litter Control Act*.

The Environmental Assessment Section becomes aware of potential undertakings either through referrals from other government departments or through direct application by a proponent. On receipt, potential undertakings are screened to determine if approval under Section 9(1) of the *Environmental Protection Act* is required. If the project meets the definition of an undertaking, it is registered and the approval of the Minister is ultimately required before it may proceed. If the project is not considered an undertaking but there are environmental issues that may need to be addressed by the proponent, it is considered a referral and conditions for mitigation are typically applied to a Building Permit or other required government approval process.

### **Registered Undertakings**

In 2008/2009, a total of four undertakings were approved by the Environmental Assessment Section. The variety of projects included:

- Construction of 200 kV transmission line
- Wind farm
- Waste water treatment facility
- Cattle barn expansion

### **Interdepartmental Approvals**

Each year the department examines and assesses a large number of referrals from the Department of Communities, Cultural Affairs and Labour. These referrals can include sand & salt storage facilities, sewage lagoons, correctional facilities, summer camps and temporary camp-sites,

multiple-unit developments (cottages, apartments, senior complexes), etc.

In 2008/2009, a total of 179 Interdepartmental approvals were processed by the EA Section which included:

- Agricultural: 32
- Commercial: 21
- Site suitability (Buffers, sensitive features, etc): 102
- Fisheries related: 5
- Miscellaneous: 19

The Environmental Assessment Section also carries out reviews of various proposed subdivisions from across the province.

In 2008/2009, 63 Subdivision Applications were reviewed.

Total 63

50+ Lots: 1

20 to 49 Lots: 7

6 to 19 Lots: 10

2 to 5 Lots: 45

### **Excavation Pits, Automobile Junk Yards and Unsightly Properties**

The inspection and permitting of waste management facilities, excavation pits, and automobile junk yards are other important functions of the Environmental Assessment Section. Ensuring that these types of facilities are operating in compliance with their respective legislation is particularly important for the protection of groundwater and surface water resources.

In 2008/2009, a total of two composting facilities, 57 recycling facilities, one landfill facility, five construction and demolition facilities, 294 licensed pits, and 48 automobile junk yards were on file with the department. Over the course of the year, most of these were inspected by section staff.

As well, numerous inspections of properties were carried out by Environment Officers under the *Unsightly Property Act* in 2008/2009. Many of these properties required repeated visits and/or follow-up inspections in an effort to have problem areas addressed with the co-operation of the property owner.

# Water Management Division

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## **Mandate**

The Water Management Division is responsible for the sustainable management, protection and enhancement of the province's drinking water, groundwater, inland surface water and coastal estuaries. The division regulates water and sewer infrastructure and assists in the administration of funding that supports this infrastructure. It also provides water testing services (microbiological and chemical) and engineering advisory services to the public, other provincial departments and agencies, industry and municipalities; and is responsible for conducting baseline monitoring and assessment of the province's water resources.

## **Division Overview**

The Water Management Division consists of three sections: Drinking Water Management, Watershed Management, and Prince Edward Island Analytical Laboratories.

The main responsibility of the Drinking Water Management Section is to ensure sustainable management, protection and enhancement of drinking water and wastewater systems. The key program areas include:

- Drinking water quality monitoring programs
- Water and wastewater servicing
- Licensing programs for contractors
- Pilot program for on-site sewage disposal system approvals
- PEI Bio-Solids Strategy

The Watershed Management Section is responsible for the management of groundwater, inland surface waters, and coastal estuaries.

The section recognizes the watershed as a principal unit of assessment, and that the quality and quantity of ground and surface waters are intrinsically related. The specific program areas for the section include:

- Groundwater quantity assessments
- Watershed management
- Water quality and quantity programs
- Publication of groundwater and surface water quality and quantity information
- Development of educational materials
- Public education and information sessions

The Prince Edward Island Analytical Laboratories is responsible for the management of the province's water microbiological and water chemistry laboratories. As a result of the co-operative arrangement between the Department of Agriculture and the Department of Environment, Energy and Forestry, a single Lab Manager is responsible for the day-to-day activities of the labs under the PEI Analytical Laboratories. The program areas include:

- Drinking water quality analyses
- General water quality analyses for ground and surface waters to determine the health of water for interests including aquatic habitat, the fishery, recreation, and aesthetics
- Wastewater programs
- Accreditation initiative with the Standards Council of Canada

### **Drinking Water Management Section**

One of the most significant activities for the Drinking Water Management Section involved continued work on implementation of the regulations governing the operation of central water supply and wastewater treatment systems in the province to privately operated systems. The regulations prescribe requirements for system classification, operator certification and monitoring and public reporting requirements.

In addition, work continued on year two of a pilot program for a new approach to the approval of on-site sewage disposal systems. This program involves the training of a select group of licensed sewage disposal contractors in site suitability assessments and allows them to register site suitability assessments and proposed system designs without the need to apply for the traditional sewage disposal permits, with the intention of streamlining the approval process, and building more technical capacity within the industry. A total of 17 contractors are involved in the project. As in the previous year of the program, approximately 50 per cent of on-site sewage systems installed in the Province were done under the pilot program, and again of these systems, 50 per cent of the site suitability assessments were conducted by pilot program contractors, the remainder of assessments being conducted by government staff or the consulting sector.

As part of these efforts, as well as to provide continuing educational opportunities to the industry as a whole in issue relating to the construction of on-site sewage disposal systems, meetings were held at various locations across the province.

Staff were increasingly involved with such activities as soils assessments for on-site sewage disposal suitability, providing advice on remedies for failed septic systems, as a result of greater involvement in on-site sewage disposal issues.

The Drinking Water Management Section continued to investigate water quality problems in 2008/09. The majority of problems related to private wells, although some problems with small privately-owned central water supplies were addressed as well. In many cases, these have been recurring problem areas, often associated with older cottage subdivisions characterized by dense development on small lots with individual on-site sewage disposal systems.

The section continued to investigate cases of *E. coli* contamination, including the procedures for the notification of local residents of the affected area that a groundwater investigation was being undertaken and also provided assistance with and sampling activities related to the department's pesticide monitoring program.

The Water Management Division is responsible for administration of Section 13 of the *Environmental Protection Act* which requires ministerial approval for design, construction, operation and maintenance of all water supply and wastewater treatment and collection systems. In 2007/08, a total of 47 Certificates of Approval were issued, with a value of work estimated to be approximately \$13,350,000. With the extension of Drinking Water and Wastewater Facility Operating Regulations to privately operated systems there had been an increased demand for certified system operators. The section continued to be involved in development and certification of water and wastewater system operators with four exam sessions being held with a total of 45 candidates for certification. There are currently approximately 85 certified operators in the Province.

The division continues to provide technical support representing both provincial/federal government interests in several major projects including sewer and water expansions in the Town of Stratford, and the

further work on the Province's Bio-Solids Management Strategy.

Twenty Groundwater Exploration Permits and five Groundwater Extraction Permits were issued in 2008/09, up significantly from the previous few years.

As an important part of its activities, the Drinking Water Management Section conducts research on various topics of importance related to drinking water. The section continued to assist with the implementation of an expanded pesticide monitoring program. Results of this work have been similar to previous surveys, with detections being rare, and where there have been detections, concentrations have been low compared to health guidance values.

Staff continued collaborative research using new geochemical techniques to learn more about the behaviour of different nitrogen species in groundwater in conjunction with researchers with the Geological Survey of Canada and the logistical support of staff of Agriculture and Agri-food Canada, with work continuing on studies at the Harrington Experimental Farm and in the Earncliffe Peninsula area. The results of some of this as well as earlier work formed the basis for submissions to the Province's Commission on Nitrates in Groundwater.

#### **Watershed Management Section**

The Watershed Management Section administers the Watershed Management Fund (WMF) that provides technical and financial assistance to community watershed organizations who are working on watershed restoration and/or watershed planning.

In 2008, 30 watershed groups were funded through this watershed management initiative awarding a total of \$520,000 to community groups and researchers. The

funding increase of 330 per cent over 2006 levels is a direct result of recommendations of the public consultations on watersheds undertaken by the Environmental Advisory Council in 2007.

As in other years, priority funding areas included watershed plan preparation, facilitation and strategic planning, and building capacity of watershed organizations. As a result of funding, other traditional watershed restoration activities including stream enhancement, fish passage restoration, riparian and upland tree planting, wetland enhancement and watershed group newsletters were also carried out by many watershed organizations.

Five community based watershed management plans either had been developed or were significantly under development during the year. Almost all of the other funded groups were proceeding towards the creation of plans as well.

Long-term water quality monitoring was continued on groundwater, fresh water and estuary sites as part of the Canada-PEI Water Quality Agreement. The PEI Estuaries Program and the Freshwater Loading Program monitor estuaries and streams across the Island for receiving water quality and freshwater loading respectively. In addition, over 100 groundwater locations, three rivers and several fish and shellfish collections were monitored for pesticides.

The water monitoring network was again expanded in 2008. Through two projects from the Canada-PEI National Water Program totaling over \$129,000, 11 real-time stream gauging sites were added and three groundwater monitoring wells were equipped with monitoring probes, two of which were real-time enabled.

The water monitoring network now includes 19 groundwater monitoring sites (11 real-time), 11 real time surface water monitoring sites, and one real time surface water quality/quantity site, for a total of 31 sites. Much of the data is available to the public on the Department's website, and it is the Department's goal to have all of the data published on the website in the future.

The work of the Regional Technical Advisory Group (RTAG) consisting of four maritime scientists and section support assistance continued to make progress to determine nutrient loading targets for estuaries across PEI. This multi-year project will have important consequences for remedial watershed work to restore estuarine water quality. The output from this process will factor into groundwater modeling completed by section staff especially related to nitrate contamination and movement.

Web based data reporting is a strong component of the section's outreach to the Island public. Surface water results for both current and archive data is available in a mapping and graphics application on the department website with daily updates. Groundwater level information was available real time for four stations. Non real-time stations are updated approximately every two months. A long-term goal of the program will be to have all of the groundwater sites fitted with communications equipment to provide real time access. With Canada-PEI National Water Program funding, two new web based applications were launched. A new groundwater quality reporting web based mapping application allows the public to determine average groundwater quality in the area where they live. It also provides this average data by community and watershed. In a second web application, the water level data collected from the 11 new stream

gauging sites can be viewed by farmers so they can determine whether there is sufficient water in the stream to use for irrigation purposes. The website and data are also available to the general public.

In the late fall of 2008, a significant redesign of protection for watercourse, wetlands and buffer zones resulted in the implementation of the new Watercourse and Wetland Protection Regulations. The new design, crafted with support from the Office of the Attorney General, is simpler, enhanced and provides for more effective enforcement. The new system features a single 15 m buffer zone expanded to cover all watercourses and wetlands. Overall, it is more protective of vegetation in watercourses, wetlands and buffer zones.

The Watershed Management Section continued to work with the Sustainable Agriculture Section of the Department of Agriculture, Fisheries and Aquaculture, the Federation of Agriculture, Agriculture and Agri-Food Canada, the Souris Branch of the PEI Wildlife Federation and the Trout River Environmental Committee on a two-year ecological goods and service pilot for PEI utilizing an Alternative Land Use Service (ALUS) model. This program has producers in the two watersheds working with their watershed groups to supply services that enhance water quality and habitat.



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